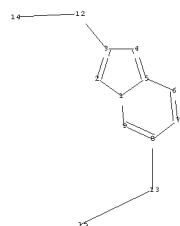
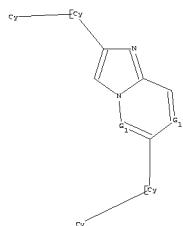


=>



chain nodes :

12 13 14 15

ring nodes :

1 2 3 4 5 6 7 8 9

chain bonds :

3-12 8-13 12-14 13-15

ring bonds :

1-2 1-5 1-9 2-3 3-4 4-5 5-6 6-7 7-8 8-9

exact/norm bonds :

1-2 1-5 1-9 2-3 3-4 3-12 4-5 5-6 6-7 7-8 8-9 8-13 12-14 13-15

G1:C,N

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 12:Atom 13:Atom 14:Atom 15:Atom

L1 STRUCTURE UPLOADED

=> s 11 sss sam  
SAMPLE SEARCH INITIATED 10:36:59 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 11451 TO ITERATE

17.5% PROCESSED 2000 ITERATIONS  
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.01

1 ANSWERS

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 222608 TO 235432  
PROJECTED ANSWERS: 1 TO 257

L2 1 SEA SSS SAM L1

=> s 11 sss full  
FULL SEARCH INITIATED 10:37:08 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 228722 TO ITERATE

100.0% PROCESSED 228722 ITERATIONS 265 ANSWERS

SEARCH TIME: 00.00.03

L3 265 SEA SSS FUL L1

=> d scan 13

L3 265 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

Author/Inventor

Acetamide, N-[2-(4-methylphenyl)-6-(1-pyrrolidinyl)imidazo[1,2- b]pyridazin-3-yl]methyl]-

L3 265 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

Author/Inventor

Imidazo[1,2-b]pyridazine, 2-[4-[1-methyl-5-(trifluoromethyl)-1H-pyrazol-3- yl]phenyl]-6-(2H-tetrazol-5-yl)-

L3 265 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

Author/Inventor

Benzene carboximidamide, 4,4'-imidazo[1,2-a]pyridine-2,6-diylbis[N-hydroxy- (9Cl)]-

L3 265 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

Author/Inventor

Imidazo[1,2-a]pyridine, 6-(2-naphthalenyl)-2-[4-[10-(2-naphthalenyl)-9- anthracenyl]phenyl]-

=> d his

(FILE 'HOME' ENTERED AT 10:36:15 ON 09 JAN 2008)

FILE 'REGISTRY' ENTERED AT 10:36:36 ON 09 JAN 2008

L1 STRUCTURE uploaded

L2 1 S L1 SSS SAM

L3 265 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 10:37:59 ON 09 JAN 2008

=> s 13

L4 65 L3

=> s 14 and py<=2003

23975208 PY<=2003

L5 42 L4 AND PY<=2003

=> s 15 and electroluminescent

68951 ELECTROLUMINESCENT

6 ELECTROLUMINESCENTS

68953 ELECTROLUMINESCENT

(ELECTROLUMINESCENT OR ELECTROLUMINESCENTS)

L6 1 L5 AND ELECTROLUMINESCENT

=> d 16

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent device

Author/Inventor

Nakatsuka, Masakatsu; Shimamura, Takehiko

Patent Assignee/Corporate Source

Mitsui Chemicals Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 43 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001035664	A	20010209	JP 1999-206147	19990721

Patent Number (1)

JP 2001035664

Kind Code (1)

A

Patent Publication Date (1)  
20010209  
Application Number (1)  
JP 1999-206147  
Application Date (1)  
19990721  
Priority Patent Number (1)  
JP 1999-206147  
Priority Patent Publication Date (1)  
19990721

=> s 15 not 16  
L7 41 L5 NOT L6

=> s 17 and electron  
1449299 ELECTRON  
272382 ELECTRONS  
1535444 ELECTRON  
(ELECTRON OR ELECTRONS)  
L8 1 L7 AND ELECTRON

=> d 18 ibib abs

## L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

Title Imidazo[1,2-a]pyridines. II. Ozonolysis of imidazo[1,2-a]pyridines and synthesis of cardiotonic agents

Author/Inventor Yamanaka, Motosuke; Suda, Shinji; Yoneda, Naoki; Ohhara, Hideto

Patent Assignee/Corporate Source

Eisai Tsukuba Res. Lab., Tsukuba, 300-26, Japan

Source

Chemical & Pharmaceutical Bulletin (1992), 40(3), 666-74 CODEN: CPBTAL; ISSN: 0009-2363

Document Type

Journal

Language

English

Abstract

The metabolite of loprinone (E-1020) in dogs, 5-(2-aminopyridin-5-yl)-1,2-dihydro-6-methyl-2-oxo-3-pyridinecarbonitrile (I), was prepared via ozonolysis of imidazo[1,2-a]pyridinylpyridines, e.g., II, and evaluated for pos. inotropic activity. Its potency was less than that of loprinone and milrinone. Among compds. related to loprinone which were synthesized using the versatile intermediates III (R = Me, PhCH<sub>2</sub>), obtained during the preparation of I, only 5-(2-aminoimidazo[1,2-a]pyridin-6-yl)-1,2-dihydro-6-methyl-2-oxo-3-pyridinecarbonitrile (IV) retained the activity of loprinone. Electron -withdrawing substituents at the 2-position of imidazo[1,2-a]pyridine reduced the activity of the parent compound. The ozonolysis of imidazo[1,2-a]pyridine derivs. under neutral conditions afforded 2-acylaminopyridine derivs. in a 30-55% yield independent of the substituents at the 2-position of imidazo[1,2-a]pyridine. It is possible to use imidazo[1,2-a]pyridines as protected 2-aminopyridines, and 2,3-unsubstituted imidazo[1,2-a]pyridines are convenient for that purpose from the viewpoint of ease of preparation of the starting material.

=> s 17 not 18  
L9 40 L7 NOT L8

=> s 19 and transport  
767717 TRANSPORT  
6560 TRANSPORTS  
770375 TRANSPORT  
(TRANSPORT OR TRANSPORTS)  
L10 0 L9 AND TRANSPORT

=> s 110 and conduct?  
1080537 CONDUCT?  
354282 COND  
4753 CONDS  
355482 COND  
(COND OR CONDS)  
1209464 CONDUCT?  
(CONDUCT? OR COND)  
L11 0 L10 AND CONDUCT?

=> s 19 and conduct?  
1080537 CONDUCT?  
354282 COND  
4753 CONDS  
355482 COND

(COND OR CONDS)  
1209464 CONDUCT?  
(CONDUCT? OR COND)  
L12 1 L9 AND CONDUCT?  
=> d l12 ibib abs

L12 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

Title Electrophotographic photoreceptor using novel azo-type photoconductive substance  
Author/Inventor Ito, Akira; Horiuchi, Tamotsu  
Patent Assignee/Corporate Source Mitsubishi Paper Mills Ltd, Japan  
Source Jpn. Kokai Tokkyo Koho, 18 pp. CODEN: JKXXAF  
Document Type Patent  
Language Japanese  
Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08101520	A	19960416	JP 1994-237621	19940930

Patent Number (1)  
JP 08101520

Kind Code (1)  
A

Patent Publication Date (1)  
19960416

Application Number (1)  
JP 1994-237621

Application Date (1)  
19940930

Priority Patent Number (1)  
JP 1994-237621

Priority Patent Publication Date (1)  
19940930

#### Abstract

The title photoreceptor comprises a conductive support laminated with a photosensitive layer containing an azo compound I [R1 = H, halo, CN, (substituted) alkyl, aryl; R2-4 = H, halo, (substituted) alkyl, alkoxy, aryl, heterocycl; Ar = (substituted) arylene; n = 0, 1; Cp = coupler residue]. The photoreceptor shows high photosensitivity and durability in repeated used. Thus, an Al vapor-deposited polyester film was coated with a charge-generating layer containing II and a charge-transporting layer containing a hydrazone compound to give a photoreceptor.

=> s l9 not l12  
L13 39 L9 NOT L12

=> d l13 1-39 ibib abs

L13 ANSWER 1 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title Synthesis and antimicrobial evaluation of some new 1,2,4-triazine derivatives  
Author/Inventor El-Ansary, A. K.  
Patent Assignee/Corporate Source Organic Chemistry Department, Faculty of Pharmacy, Cairo University, Cairo, Egypt  
Source Bulletin of the Faculty of Pharmacy (Cairo University) (2002 ), 40(3), 97-108 CODEN: BFPHA8; ISSN: 1110-0931  
Document Type Journal  
Language English  
Abstract A number of nitrogen-containing fused heterocyclic compds., such as triazolotriazine, triazinotriazine, imidazotriazine, triazinoquinazolinone, and 1,2,4-triazine derivs. have been synthesized from 5-benzyl-6-chloro-3-(4-methylphenyl)-1,2,4-triazines. The antimicrobial activity was determined for thirteen representative compds.

L13 ANSWER 2 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title Comparative study on the reactivity of 6-haloimidazo[1,2-a]pyridine derivatives towards Negishi- and Stille-coupling reactions  
Author/Inventor

Hervet, Maud; Thery, Isabelle; Gueiffier, Alain; Enguehard-gueiffier, Cecile  
Patent Assignee/Corporate Source  
Laboratoire de Chimie Therapeutique EA 3247, Faculte de Pharmacie, Tours, F-37200, Fr.  
Source Helvetica Chimica Acta (2003 ), 86(10), 3461-3469 CODEN: HCACAV; ISSN: 0018-019X  
Document Type Journal  
Language English  
Abstract The scope of the Suzuki-cross-coupling reaction of 6-haloimidazo[1,2- a]pyridines is dependent on the availability of the (hetero)arylboronic acids. Thus, with the aim to develop expanded applications of (hetero)arylations of imidazo[1,2-a]pyridines, we investigated the Negishi- and Stille-cross-coupling reactions at the 6-position. Remarkably, attempts to apply the Negishi-cross-coupling conditions to the organozinc derivative prepared from 6-haloimidazo[1,2-a]pyridine via a lithium-zinc exchange led to the 5-Ph compound 3 in 54% yield instead of the desired 6-Ph isomer (Scheme 1). In contrast, various com. available halogenated five- or six-membered-ring heterocycles were efficiently coupled to the 6-(trialkylstannyli)imidazo[1,2-a]pyridine under Stille conditions (Table 2).

L13 ANSWER 3 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title Ipso- or Cine-Substitutions of 6-Haloimidazo[1,2- a]pyridine Derivatives with Different Azoles Depending on the Reaction Conditions  
Author/Inventor Enguehard, Cecile; Allouchi, Hassan; Gueiffier, Alain; Buchwald, Stephen L.  
Patent Assignee/Corporate Source Laboratoire de Chimie Therapeutique and Laboratoire de Chimie Physique, UFR des Sciences Pharmaceutiques, Tours, 37200, Fr.  
Source Journal of Organic Chemistry (2003 ), 68(14), 5614-5617 CODEN: JOCEAH; ISSN: 0022-3263  
Document Type Journal  
Language English  
Abstract The reactivity of 6-haloimidazo[1,2-a]pyridines I (R = Br, iodo) toward different azoles, such as pyrrole, indole, 1,2,3-triazole, etc., is reported. The process was shown to be highly dependent on the reaction conditions. Thus, in the presence of a copper(I) catalyst, the product of ipso substitution was obtained, whereas in the absence of copper, with cesium carbonate in N,N-dimethylformamide, a cine substitution took place.

L13 ANSWER 4 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title Easy Access to Novel Substituted 6-Aminoimidazo[1,2- a]pyridines Using Palladium- and Copper-Catalyzed Aminations  
Author/Inventor Enguehard, Cecile; Allouchi, Hassan; Gueiffier, Alain; Buchwald, Stephen L.  
Patent Assignee/Corporate Source EA 3247, Laboratoire de Chimie Therapeutique, Laboratoire de Chimie Physique, UFR des Sciences Pharmaceutiques, Tours, 37200, Fr.  
Source Journal of Organic Chemistry (2003 ), 68(11), 4367-4370 CODEN: JOCEAH; ISSN: 0022-3263  
Document Type Journal  
Language English  
Abstract Novel 6-aminoimidazo[1,2-a]pyridines I (R1 = Ph, PhCH<sub>2</sub>, n-hexyl, cyclohexyl, R2 = H; R1 = Ph, R2 = Me; R1R2N = pyrrolidino, piperidino, morpholino, N-Et piperazino) were readily prepared via palladium- or copper-catalyzed amination of the corresponding 6-haloimidazo[1,2- a]pyridines with primary and secondary amines R1NHR2.

L13 ANSWER 5 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title Preparation of imidazo[1,2-a]pyridines for the prophylaxis and treatment of herpes viral infections  
Author/Inventor Gudmundsson, Kristjan; Johns, Brian A.  
Patent Assignee/Corporate Source Smithkline Beecham Corporation, USA  
Source PCT Int. Appl., 144 pp. CODEN: PIXXD2  
Document Type Patent  
Language English  
Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003000689	A1	20030103	WO 2002-US18520	20020610

Patent Number (1)  
WO 2003000689

Kind Code (1)  
A1

Patent Publication Date (1)  
20030103

Application Number (1)  
WO 2002-US18520

Application Date (1)  
20020610

Priority Patent Number (1)  
US 2001-300009P

Priority Kind Code (1)  
P

Priority Patent Publication Date (1)  
20010621

#### Abstract

The title compds. [ $I$ :  $p = 0-4$ ;  $R1 =$  halo, alkyl, alkenyl, etc.;  $R2 =$  halo, alkenyl, cycloalkyl, etc.;  $Y = N, CH$ ;  $R3, R4 = H, halo, alkyl, etc.$ ;  $q = 0-5$ ;  $R5 =$  halo, alkyl, alkenyl, etc.] were prepared. E.g., a 7-step synthesis of  $II$ , starting from 2-amino-3-nitropyridine and 2-bromo-4'-fluoroacetophenone, which showed IC50 of 0.6  $\mu\text{M}$  against HSV-1, was given.

L13 ANSWER 6 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

#### Title

Product class 5: azaindolizines with two nitrogen atoms in the five-membered ring

#### Author/Inventor

Hajos, G.; Riedl, Z.

#### Patent Assignee/Corporate Source

Chemical Research Center, Institute of Chemistry, Budapest, H-1025, Hung.

#### Source

Science of Synthesis (2002), 12, 613-678 CODEN: SSCYJ9

#### Document Type

Journal; General Review

#### Language

English

#### Abstract

A review of preparation of azaindolizines with two nitrogen atoms in the five-membered ring. Covered reactions include ring-closure, substituent modification, substitution reactions, and other miscellaneous methods.

L13 ANSWER 7 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

#### Title

Preparation of imidazolyl derivatives as agonists or antagonists of somatostatin receptors

#### Author/Inventor

Thurieau, Christophe Alain; Poitout, Lydie Francine; Galcera, Marie-Odile; Gordon, Thomas D.; Morgan, Barry A.; Moinet, Christophe Philippe; Bigg, Dennis

#### Patent Assignee/Corporate Source

Societe De Conseils De Recherches Et D'applications Scientifiques (S.C.R.A.S.), Fr.

#### Source

PCT Int. Appl., 369 pp. CODEN: PIXXD2

#### Document Type

Patent

#### Language

English

#### Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002010140	A2	20020207	WO 2001-US23959	20010731

Patent Number (1)  
WO 2002010140

Kind Code (1)  
A2

Patent Publication Date (1)  
20020207

Application Number (1)  
WO 2001-US23959

Application Date (1)  
20010731

Priority Patent Number (1)  
US 2000-222584P

Priority Kind Code (1)

P  
Priority Patent Publication Date (1)  
20000801

Abstract

Imidazole derivs. I [R1 = H, (CH<sub>2</sub>)<sub>m</sub>CO(CH<sub>2</sub>)<sub>m</sub>Z1, (CH<sub>2</sub>)<sub>m</sub>Z1, etc.; Z1 = (un)substituted benzo[b]thiophene, Ph, naphthyl, etc.; m = 0-6; R2 = H, alkyl; R1 and R2 taken together with the nitrogen atoms to which they are attached form II-IV; R3 = (CH<sub>2</sub>)<sub>m</sub>E(CH<sub>2</sub>)<sub>n</sub>Z2; E = O, S, CO, etc.; Z2 = H, alkyl, NH<sub>2</sub>, etc.; R4 = H, (CH<sub>2</sub>)<sub>m</sub>A1; A1 = C(Y)NX<sub>1</sub>X<sub>2</sub>; C(Y)X<sub>2</sub>; C(NH)X<sub>2</sub>, X<sub>2</sub>; Y = O, S; X<sub>1</sub> = H, alkyl, etc.; X<sub>2</sub> = alkyl, etc.; R5 = alkyl, (un)substituted aryl, etc.; R6 = H, alkyl; R7 = alkyl, (CH<sub>2</sub>)<sub>m</sub>Z4; Z4 = (un)substituted Ph, naphthyl, indolyl, etc.], which are useful as agonists or antagonists of somatostatin receptors (no data) and for inhibiting the proliferation of Helicobacter pylori, were prepared. Thus, activating 2-furancarboxylic acid with carbonyldiimidazole followed by addition of 2-{(1S)-1-amino-2-(indol-3-yl)ethyl}-4-phenyl-1H-imidazole afforded 94% the title compound V. Compds. I are effective at 0.01-10.0 mg/kg/day.

L13 ANSWER 8 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

(Hetero)arylation of 6-halogenoimidazo[1,2-a]pyridines differently substituted at C(2): influence of the 2-substituent on the Suzuki cross-coupling reaction

Author/Inventor

Enguehard, Cecile; Hervet, Maud; Thery, Isabelle; Renou, Jean-Louis; Fauvette, Florence; Gueffier, Alain

Patent Assignee/Corporate Source

EA 3247, Laboratoire de Chimie Therapeutique, UFR des Sciences Pharmaceutiques, Tours, F-37200, Fr.

Source

Helvetica Chimica Acta (2001), 84(12), 3610-3615 CODEN: HCACAV; ISSN: 0018-019X

Document Type

Journal

Language

English

Abstract

The authors previously reported that reactivity towards the Suzuki cross-coupling reaction of 3-iodoimidazo[1,2-a]pyridines substituted at C(2) is largely influenced by the nature of this 2-substituent. With the aim to expand the scope of this coupling process to the 6-position of this series, it seemed important to similarly determine the influence of the nature of the 2-substituent (H, alkyl, or aryl) on the rate of coupling. From this work, the Suzuki-type cross-coupling proceeds efficiently on 6-bromo-2-methyl- and 2-(4-fluorophenyl)imidazo[1,2-a]pyridines, whereas the 6-Br derivative unsubstituted at C(2) appeared to be poorly reactive. By modifying the reaction conditions in terms of catalyst and base, and the nature of the halogen, the reactivity of the unsubstituted series was largely enhanced. This work established efficient and convenient Suzuki reaction conditions for the 6-(hetero)arylation of 6-haloimidazo[1,2-a]pyridines depending on the nature of the 2-substituent and boronic acid.

L13 ANSWER 9 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Reactivity of a 6-chloroimidazo[1,2-b]pyridazine derivative towards Suzuki cross-coupling reaction

Author/Inventor

Enguehard, Cecile; Hervet, Maud; Allouchi, Hassan; Debouzy, Jean-Claude; Leger, Jean-Michel; Gueffier, Alain

Patent Assignee/Corporate Source

Laboratoire de Chimie Therapeutique, Faculte de Pharmacie, Tours, 37200, Fr.

Source

Synthesis (2001), (4), 595-600 CODEN: SYNTBF; ISSN: 0039-7881

Document Type

Journal

Language

English

Abstract

The influence of base, reaction time and boronic acid in the Suzuki cross-coupling reaction on 6-chloro-2-(4-fluorophenyl)imidazo[1,2-b]pyridazine is reported. The crystal data for the thien-2-yl compound I is also described.

L13 ANSWER 10 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Synthesis of substituted imidazopyrazines as ligands for the human somatostatin receptor subtype 5

Author/Inventor

Contour-Galcera, M.-O.; Poitout, L.; Moinet, C.; Morgan, B.; Gordon, T.; Roubert, P.; Thurieau, C.

Patent Assignee/Corporate Source

Institut Henri Beaufour, Les Ulis, F-91966, Fr.

Source

Bioorganic & Medicinal Chemistry Letters (2001), 11(5), 741-745 CODEN: BMCL8; ISSN: 0960-894X

Document Type

Journal

Language

English

Abstract

A new preparation of trisubstituted imidazopyrazines and dihydroimidazopyrazines via parallel synthesis using amino acids and bromo ketones resulted in the discovery of non-peptidic sst<sub>5</sub> selective agonists.

## Title

Preparation of imidazoline derivatives for the treatment of diabetes, especially type II diabetes

## Author/Inventor

Paal, Michael; Ruehter, Gerd; Schotten, Theo

## Patent Assignee/Corporate Source

Eli Lilly and Company, USA

## Source

PCT Int. Appl., 143 pp. CODEN: PIXXD2

## Document Type

Patent

## Language

English

## Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000078726	A1	20001228	WO 2000-US11881	20000619

## Patent Number (1)

WO 2000078726

## Kind Code (1)

A1

## Patent Publication Date (1)

20001228

## Application Number (1)

WO 2000-US11881

## Application Date (1)

20000619

## Priority Patent Number (1)

GB 1999-14222

## Priority Kind Code (1)

A

## Priority Patent Publication Date (1)

19990618

## Abstract

The title compds. [I]; R1-R4 = H, alkyl; R1 and R3, together with the carbon atoms to which they are attached, combine to form a C3-7 carbocyclic ring and R2 and R4 = H, alkyl; R1 and R2, together with the carbon atom to which they are attached combine to form a C3-7 spirocarbocyclic ring and R3 and R4 = H, alkyl; R3 and R4, together with the carbon atom to which they are attached combine to form a C3-7 spirocarbocyclic ring and R1 and R2 = H, alkyl; R5 = H, alkyl, aryl, etc.; R6 = H, alkyl, alkoxy, etc.; R7 = H, alkyl, alkoxy, etc.; Y = NHCONH, NHCO, a bond, etc.; A = a monocyclic or bicyclic ring; R8 = H, alkyl, alkenyl, etc.; R9, R10 = H, alkyl, alkoxy, etc.], useful for the treatment of diabetes, diabetic complications, metabolic disorders, or related diseases where impaired glucose disposal is present (no data), were prepared and formulated. E.g., a multi-step synthesis of the imidazoline II.HCl was given. The compds. I are effective at 0.1-5 mg/kg/day.

## Title

Preparation of imidazolyl derivatives as agonists or antagonists of somatostatin receptors

## Author/Inventor

Thurieau, Christophe Alain; Poitout, Lydie Francine; Galcera, Marie-Odile; Gordon, Thomas D.; Morgan, Barry; Moinet, Christophe Philippe

## Patent Assignee/Corporate Source

Societe de Conseils de Recherches et d'Applications Scientifiques, S.A., Fr.

## Source

PCT Int. Appl., 342 pp. CODEN: PIXXD2

## Document Type

Patent

## Language

English

## Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9964401	A2	19991216	WO 1999-US12760	19990608

## Patent Number (1)

WO 9964401

## Kind Code (1)

A2

## Patent Publication Date (1)

19991216

## Application Number (1)

WO 1999-US12760

## Application Date (1)

19990608

## Priority Patent Number (1)

US 1998-89087P  
Priority Kind Code (1)  
P

Priority Patent Publication Date (1)  
19980612

Abstract

The title compds. [I; R1 = H, (CH2)mCO(CH2)mZ1, (CH2)mZ1, etc.; Z1 = (un)substituted benzo[b]thiophene, Ph, naphthyl, etc.; R2 = H, alkyl; R1 and R2 taken together with the nitrogen atoms to which they are attached form II-IV; R3 = (CH2)mE(CH2)mZ2; E = O, S, CO, etc.; Z2 = H, alkyl, NH2, etc.; R4 = H, (CH2)mA1; A1 = C(:Y)NX1X2; C(:Y)X2; C(:NH)X2, X2; Y = O, S; X1 = H, alkyl, etc.; X2 = alkyl, etc.; R5 = alkyl, (un)substituted aryl, etc.; R6 = H, alkyl; R7 = alkyl, (CH2)mZ4; Z4 = (un)substituted Ph, naphthyl, indolyl, etc.; m = 0-6] which are useful as agonists or antagonists of somatostatin receptors (no data), and for inhibiting the proliferation of *Helicobacter pylori*, were prepared. Thus, activating 2-furancarboxylic acid with carbonyldimidazole followed by addition of 2-{(1S)-1-amino-2-(indol-3-yl)ethyl}-4-phenyl-1H-imidazole afforded 94% the title compound V. Compds. I are effective at 0.01-10.0 mg/kg/day.

L13 ANSWER 13 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Imidazo[1,2-b]pyridazines: syntheses and interaction with central and peripheral-type (mitochondrial) benzodiazepine receptors

Author/Inventor

Barlin, Gordon B.

Patent Assignee/Corporate Source

Division of Neuroscience, John Curtin School of Medical Research, Australian National University, Canberra, ACT 2601, Australia

Source

Journal of Heterocyclic Chemistry (1998 ), 35(5), 1205-1217 CODEN: JHTCAD; ISSN: 0022-152X

Document Type

Journal

Language

English

Abstract

The fundamental chemical of pyridazines, the syntheses of substituted imidazo[1,2-b]pyridazines (1) (and some related compds.) and the interaction of the products with central benzodiazepine receptors (CBR) and peripheral-type (mitochondrial) benzodiazepine receptors (PBR) are described. Some of these imidazo[1,2-b]pyridazines had high selective affinity for the central benzodiazepine receptors and others had high selectivity for the peripheral-type (mitochondrial) benzodiazepine receptors. The results of structure-activity studies and mol. modeling will be reported. In vivo tests of some compds. which interacted strongly with the central benzodiazepine receptors revealed reasonably potent anticonvulsant/anticonflict activity, and some of those which bind selectively to the peripheral-type (mitochondrial) benzodiazepine receptors are being examined as possible radiopharmaceuticals for imaging of tumors (and other disease states).

L13 ANSWER 14 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Bis-Cationic heteroaromatics as macrofilaricides: synthesis of bis-amidine and bis-guanylhydrazone derivatives of substituted Imidazo[1,2-a]pyridines

Author/Inventor

Sundberg, Richard J.; Biswas, Sujay; Murthi, Krishna Kumar; Rowe, Donna; McCall, John W.; Dzimianski, Michael T.

Patent Assignee/Corporate Source

Department of Chemistry, University of Virginia, Charlottesville, VA, 22901, USA

Source

Journal of Medicinal Chemistry (1998 ), 41(22), 4317-4328 CODEN: JMCMAR; ISSN: 0022-2623

Document Type

Journal

Language

English

Abstract

A series of guanylhydrazone, amidine, and hydrazone derivs. of 2-phenylimidazo[1,2-a]pyridine have been prepared and evaluated for macrofilarial activity against *Acanthocheilonema viteae* and *Brugia pahangi* in jirds. Compds. with 4',6'-bis-substitution by cyclic guanylhydrazone groups show activity. 4',6'-Bis-amidines show some activity but are more toxic; 4'- or 6'-monosubstituted compds. are inactive. 2,6-Bis-substituted compds. lacking the Ph ring are inactive. 4',6'-Bis-substituted compds. having addnl. double bonds inserted between the heterocyclic ring and the Ph ring or between the substituent and the ring system show reduced activity.

L13 ANSWER 15 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Preparation of fused imidazopyridines as antiulcer drugs

Author/Inventor

Tanaka, Hironori; Fukuzumi, Kazuyoshi; Togawa, Takeshi; Banno, Kimiko; Ushiro, Toshihisa; Morii, Masaaki; Nakatani, Takafumi

Patent Assignee/Corporate Source

Shinnippon Pharmaceutical Inc., Japan

Source

PCT Int. Appl., 145 pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese  
Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9633195	A1	19961024	WO 1996-JP975	19960410

Patent Number (1)

WO 9633195

Kind Code (1)

A1

Patent Publication Date (1)

19961024

Application Number (1)

WO 1996-JP975

Application Date (1)

19960410

Priority Patent Number (1)

JP 1995-97130

Priority Kind Code (1)

A

Priority Patent Publication Date (1)

19950421

Abstract

The title compds. [I; A or B ring = benzene, thiophene, furan, or pyrrole ring; R1 = OH, halo, lower (halo)alkyl, lower alkoxy, acyloxy; k = 0-3; R2, R3 = H, alkenyl, acyl, alkoxy carbonyl, (un)substituted amino, aryl (un)substituted alkyl; or R2 and R3 combine with N to form a N-containing heterocycle, etc.; R4, R5 = halo, cyano, OH, CO2H, acyl, etc.; m = 0-2; n = 0-2; broken line may combine with solid line to represent a single or double bond], pharmacol. acceptable salts thereof, and solvates thereof are prepared. I are useful as antiulcer agents and for treating gastrointestinal diseases. 2-(2-Methylphenyl)imidazo[1,2-a]isoquinoline was treated with NaNO2 and then with Zn to give I [A(R1)k = 2-MeC6H4, NR2R3 = NH2, R4 = R5 = H, broken line combine with solid line to represent a double bond] (II). II showed IC50 of 26.0  $\mu$ M against H+/K+-ATPase and inhibited stomach acid secretion in rats and ulcer formation in mice..

L13 ANSWER 16 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Imidazo[1,2-b]pyridazines. XIX. Syntheses and central nervous system activities of some 6-arylthio(aryloxy and alkylthio)-3-(acetamidomethyl, benzamidomethyl, methoxy and unsubstituted)-2-arylimidazo[1,2- b]pyridazines

Author/Inventor

Barlin, Gordon B.; Davies, Les P.; Ireland, Stephen J.

Patent Assignee/Corporate Source

Div. Neuroscience, Australian National Univ., Canberra, 2601, Australia

Source

Australian Journal of Chemistry (1996), 49(4), 443-449 CODEN: AJCHAS; ISSN: 0004-9425

Document Type

Journal

Language

English

Abstract

Some 6-arylthio(aryloxy and alkylthio)-3-(acetamidomethyl, benzamidomethyl, methoxy and unsubstituted)-2-arylimidazo[1,2- b]pyridazines have been prepared and examined for their ability to displace [3H]diazepam from rat brain membranes. The most active compound was 3-acetamidomethyl-2-(3',4'-methylenedioxophenyl)-6-phenylthioimidazo[1,2- b]pyridazine with IC50 4.4 nM. The 3-acylaminomethyl-6-(2- and 3-methoxyphenylthio)-2-phenylimidazo[1,2-b]pyridazines proved less active than their 6-phenylthio analogs, and larger substituents at the 2- and 6-positions markedly decreased binding. Significant differences in binding ability have been observed between 3-acylaminomethyl-2-aryl-6- phenylthioimidazo[1,2-b]pyridazines and the corresponding imidazo[1,2-a]pyridines.

L13 ANSWER 17 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Sterically crowded heterocycles. IV. Diastereoisomeric products by ferricyanide oxidation of quaternary pyridinium salts

Author/Inventor

Kubik, Richard; Kuthan, Josef

Patent Assignee/Corporate Source

Dep. Org. Chem., Prague Inst. Chem. Technol., Prague, 166 28, Czech Rep.

Source

Collection of Czechoslovak Chemical Communications (1996), 61(4), 615-621 CODEN: CCCCAK; ISSN: 0010-0765

Document Type

Journal

Language

English

Abstract

While ferricyanide oxidation of achiral 4-(4-dimethylaminophenyl)-2,6- diphenyl-1-(pyridin-2-yl)pyridinium perchlorate gave racemic 3-(4-dimethylaminophenyl)-1-phenyl-3-(2-phenylimidazo[1,2-a]pyridin-3- yl)prop-2-1-one, the same oxidative procedure applied to racemic 1-[5-(1-methylpyrrolidin-2-yl)pyridin-2-yl]-2,4,6-triphenylpyridinium perchlorate or its 4-(dimethylamino)phenyl derivative led to mixts. of diastereoisomeric 3-[6-(1-methylpyrrolidin-2-yl)-2-phenylimidazo[1,2- a]pyridin-3-yl]-1,3-diphenyl-2-en-1-ones I (X = H) or

their dimethylamino derivs. I (X = NMe<sub>2</sub>), resp.

L13 ANSWER 18 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Imidazo[1,2-b]pyridazines: Studies on chemical structure-antiinflammatory activity relationships

Author/Inventor

Abignente, Enrico; Arena, Francesca; Luraschi, Elena; Sacchi, Antonia; Rimoli, Maria Grazia; Laneri, Sonia

Patent Assignee/Corporate Source

Facolta di Farmacia, Universita di Napoli "Federico II", Naples, 80131, Italy

Source

Acta Chimica Slovenica (1994 ), 41(2), 131-48 CODEN: ACSLE7; ISSN: 1318-0207

Document Type

Journal

Language

English

Abstract

The synthesis and pharmacol. testing of some series of imidazo[1,2-b]pyridazine derivs. bearing an acidic function are described. The exptl. results are discussed, taking into particular consideration the pharmacol. profile of these new compds., which is chiefly characterized by the prevalence of the analgesic activity over the antiinflammatory activity. The relations between such pharmacol. activities and chemical structures are discussed.

L13 ANSWER 19 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Reaction of 1-aminophthalazines with  $\alpha$ -halocarbonyl compounds: Imidazo-2,1-a]phthalazines and their benzodiazepine receptor activities

Author/Inventor

Catarzi, Daniela; Cecchi, Lucia; Colotta, Vittoria; Conti, Gabriele; Melani, Fabrizio; Filacchioni, Guido; Martini, Claudia; Giusti, Laura; Lucacchini, Antonio

Patent Assignee/Corporate Source

Dip. Sci. Farm., Univ. Firenze, Florence, 50121, Italy

Source

Farmaco (1993 ), 48(4), 447-57 CODEN: FRMCE8; ISSN: 0014-827X

Document Type

Journal

Language

English

Abstract

The one-pot synthesis and the benzodiazepine receptor binding activity of some imidazo[2,1-a]phthalazines (I, R = H, Me, Ph, or NH<sub>2</sub>, R<sub>1</sub> = H, p-MeOC<sub>6</sub>H<sub>4</sub>, CO<sub>2</sub>Et, etc., R<sub>2</sub> = H, Ph or CO<sub>2</sub>Et) bearing different substituents at position-2 and/or 3 and/or 6 is reported. The dissimilar binding results of the reported compds. are discussed in relation to the nature and/or position of the substituents on the tricyclic ring system.

L13 ANSWER 20 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Imidazo[1,2-a]pyridines. I. Synthesis and inotropic activity of new 5-imidazo[1,2-a]pyridinyl-2(1H)- pyridinone derivatives. [Erratum to document cited in CA115(15):159040c]

Author/Inventor

Yamanaka, Motosuke; Miyake, Kazutoshi; Suda, Shinji; Ohhara, Hideto; Ogawa, Toshiaki

Patent Assignee/Corporate Source

Eisai Tsukuba Res. Lab., Tsukuba, 300-26, Japan

Source

Chemical & Pharmaceutical Bulletin (1991 ), 39(12), 3382 CODEN: CPBTAL; ISSN: 0009-2363

Document Type

Journal

Language

English

Abstract

An error in Chart 3 has been corrected. An error in Table III has been corrected. Three errors in the text have been corrected. The errors were not reflected in the abstract but were reflected in the index entries.

L13 ANSWER 21 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Imidazo[1,2-a]pyridines. I. Synthesis and inotropic activity of new 5-imidazo[1,2-a]pyridinyl-2(1H)- pyridinone derivatives

Author/Inventor

Yamanaka, Motosuke; Miyake, Kazutoshi; Suda, Shinji; Ohhara, Hideto; Ogawa, Toshiaki

Patent Assignee/Corporate Source

Eisai Tsukuba Res. Lab., Tsukuba, 300-26, Japan

Source

Chemical & Pharmaceutical Bulletin (1991 ), 39(6), 1556-67 CODEN: CPBTAL; ISSN: 0009-2363

Document Type

**Journal**  
**Language** English  
**Abstract**  
 A series of imidazo[1,2-a]pyridinylpyridinones, e.g., I (R1 = H, Br, Cl cyano; R2 = Me, Et; R3 = H, 6-Cl, 6-F, 6-cyano, 6-Me, 6-OMe, 6-ClF3, 8-F) and II (R4 = H, Me, CH2OMe, Ph; R5 = H, Me, R6 = Me, Et) was synthesized and evaluated for pos. inotropic activity. II (R4 = R5 = H, R6 = Me) (III) was a potent and selective inhibitor of phosphodiesterase III and a long-acting, potent, orally pos. inotropic agent. Addnl. imidazo[1,2-a]pyridin-2-yl compds. were also prepared. Altering the pyridine substitution from I to II produced a 2-fold increase in the i.v. cardiotonic potency (ED50) from 52 to 23 µg/kg, while substitution at the 3-, 7- or 8-position reduced potency. In I, introduction of halogen groups enhanced the activity and I (R1 = Cl, R2 = Me, R3 = 6-F) was the most potent (i.v. ED50 11 µg/kg) in this series. III is presently under development for the treatment of congestive heart failure.

L13 ANSWER 22 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

**Title** Research on heterocyclic compounds. XXVI. Anti-inflammatory and related activities of some 2-phenylimidazo[1,2-b]pyridazines  
**Author/Inventor** Abignente, Enrico; Arena, Francesca; Luraschi, Elena; De Caprariis, Paolo; Marmo, Emilio; Vitagliano, Saverio; Donnoli, Donato  
**Patent Assignee/Corporate Source** Fac. Farm., Univ. Napoli "Federico II", Naples, 80131, Italy  
**Source** Research Communications in Chemical Pathology and Pharmacology (1990 ), 67(1), 43-54 CODEN: RCOCB8; ISSN: 0034-5164  
**Document Type** Journal  
**Language** English  
**Abstract**  
 Five acidic Ph derivs. of the imidazo[1,2-b]pyridazines I (R and R1 = H or Me, R2 = H, Ph or C6H4OMe-4) system were subjected to some tests in vivo in order to evaluate their biol. activity. Anti-inflammatory activity was studied by means of the carrageenin rat paw edema, whereas writhing induced in mice by acetic acid was used to assess analgesic activity. The irritative and ulcerogenic action on the rat gastric mucosa was examined after oral administration of larger doses. The inhibitory activity on platelet malondialdehyde production was studied in vitro. The exptl. results are discussed from the point of view of structure-activity relationships and mode of action.

L13 ANSWER 23 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

**Title** Synthesis and cardiotonic activity of 2,4-diamino-1,3,5-triazines  
**Author/Inventor** Kosary, Judit; Kasztreiner, Endre; Rabloczky, Gyorgy; Kurthy, Maria  
**Patent Assignee/Corporate Source** Inst. Drug Res., Budapest, H-1325, Hung.  
**Source** European Journal of Medicinal Chemistry (1989 ), 24(1), 97-9 CODEN: EJMCA5; ISSN: 0223-5234  
**Document Type** Journal  
**Language** English  
**Abstract**  
 Thirty-two diaminotriazine derivs., e.g., I (R = NH2, NHBu, NMe2, morpholino, 4-methylpiperazino; R1 = indol-3-yl, imidazo[1,2-a]pyridin-2-yl, imidazo[1,2-b]pyridazin-2-yl, imidazo[1,2-a]pyrazin-2-yl, etc.) were prepared and tested for cardiotonic activity in cats. There was no correlation between the cardiotonic activity of these compds. and their inhibitory effect on cardiac phosphodiesterase.

L13 ANSWER 24 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

**Title** Preparation of imidazo[1,2-b]pyridazines as nervous system agents  
**Author/Inventor** Barlin, Gordon Bruce; Davies, Leslie Philip; Ireland, Stephen James; Ngu, Maria Mee Leng  
**Patent Assignee/Corporate Source** Australian National University, Australia  
**Source** PCT Int. Appl., 66 pp. CODEN: PIXXD2  
**Document Type** Patent  
**Language** English  
**Patent Information**

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8901333	A1	19890223	WO 1988-AU290	19880805

**Patent Number (1)**  
 WO 8901333

**Kind Code (1)**

A1  
Patent Publication Date (1)  
19890223

Application Number (1)  
WO 1988-AU290

Application Date (1)  
19880805

Priority Patent Number (1)  
AU 1987-3617

Priority Kind Code (1)  
A

Priority Patent Publication Date (1)  
19870807

Abstract

The title compds. [I; X = halo, ER1; E = O, S, NH, OCH<sub>2</sub>, SCH<sub>2</sub>, NHCH<sub>2</sub>; R1 = (un)substituted alkyl, alkenyl, alkynyl, cycloalkyl, aryl, aralkyl, heterocycl]; Y = OR<sub>2</sub>, CH<sub>2</sub>NHCOR<sub>3</sub>, CH<sub>2</sub>NR<sub>4</sub>R<sub>5</sub>; R<sub>2</sub>-R<sub>5</sub> = alkyl, cycloalkyl, aryl; Z = substituted alkyl, (un)substituted cycloalkyl, aryl, aralkyl, heterocycl] were prepared as nervous system agents useful, e.g., as anxiolytics, muscle relaxants, anticonvulsants, and for treatment of insomnia and reversal of the sedative effects of benzodiazepines. A mixture of 0.5 g 6-fluoro-3-pyridazinamine, 0.74 g 4-MeC<sub>6</sub>H<sub>4</sub>COCHO.H<sub>2</sub>O, and 0.5 mL concentrated HCl was refluxed 5.5 h in EtOH to give I (X = F, Y = OH, Z = 4-MeC<sub>6</sub>H<sub>4</sub>) which was etherified with CH<sub>2</sub>N<sub>2</sub> in Et<sub>2</sub>O to give 0.6 g I (X = F, Y = MeO, Z = 4-MeC<sub>6</sub>H<sub>4</sub>) (II). II displaced diazepam from rat brain synaptosomal membrane with an IC<sub>50</sub> of 17 nM.

L13 ANSWER 25 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Aryloxy- and aralkylthio-substituted imidazo [1,2-b]pyridazines with benzodiazepine receptor-binding activity, their preparation, pharmaceutical compositions, and use

Author/Inventor

Barlin, Gordon Bruce; Davies, Leslie Philip; Ireland, Stephen James; Ngu, Maria Mee Leng

Patent Assignee/Corporate Source

Australian National University, Australia; University of Sydney; Australasian Drug Development Ltd.

Source

PCT Int. Appl., 44 pp. CODEN: PIXXD2

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8901478	A1	19890223	WO 1988-AU291	19880805

Patent Number (1)  
WO 8901478

Kind Code (1)  
A1

Patent Publication Date (1)  
19890223

Application Number (1)  
WO 1988-AU291

Application Date (1)  
19880805

Priority Patent Number (1)  
AU 1987-3617

Priority Kind Code (1)  
A

Priority Patent Publication Date (1)  
19870807

Abstract

Title compds. I [X = OAr, SCH<sub>2</sub>Ar; Ar = (un)substituted aryl; Y = alkoxy; Z = (un)substituted (hetero)aryl], which bind to diazepine receptors, were prepared. Treatment of 3-MeOC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>Cl with thiourea followed by basic hydrolysis gave 3-MeOC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>SH, which was condensed with 6-chloropyridazin-3-amine 2-oxide in 0.5M NaOH to give 6-(3-methoxybenzylthio)pyridazin-3-amine 2-oxide. Cyclocondensation of the latter with 3-(bromoacetyl)pyridine-HBr and methylation of the obtained alc. (Y = OH) with CH<sub>2</sub>N<sub>2</sub> gave I (X = SCH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>OMe-3, Y = OMe, Z = 3-pyridyl) (II). The IC<sub>50</sub> of II for displacement of specifically bound [<sup>3</sup>H]-diazepam from rat brain benzodiazepine receptors in the presence of 100 μM GABA was 5 nM (cf. 4.2 nM for diazepam).

L13 ANSWER 26 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Preparation of 1-[imidazo[1,2-a]pyridin-6-yl]-2- propanones as intermediates for cardiotonics

Author/Inventor

Yamanaka, Motosuke; Myake, Kazutoshi; Suda, Shinji; Ohara, Hideto; Ogawa, Toshiaki

Patent Assignee/Corporate Source

Eisai Co., Ltd., Japan

Source

Document Type

Patent

Language

Japanese

## Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63077879	A	19880408	JP 1986-221885	19860922

Patent Number (1)

JP 63077879

Kind Code (1)

A

Patent Publication Date (1)

19880408

Application Number (1)

JP 1986-221885

Application Date (1)

19860922

Priority Patent Number (1)

JP 1986-221885

Priority Patent Publication Date (1)

19860922

## Abstract

Title compds. I [R1 = H, alkyl, R5CH2 (R5 = alkyl), R6R7N (R6, R7 = H, alkyl), Ph; R2 = H, halo; R3 = H, alkyl, halo; R4 = H, alkyl], useful intermediates for cardiotonics II and III (X = H, Me; Y = cyano, carboxamide, H, NH2, halo; Z = H, alkyl; W = H, alkyl), are prepared Ozonolysis of 6-(2-methyl-2-propenyl)imidazo[1,2-a]pyridine (preparation given) in concentrated HCl-H2O-EtOH, followed by treatment with Na2NO3 gave 70.5% 1-[imidazo[1,2-a]pyridine-6-yl]-2-propanone, which in DMF was heated with DMF di-Me acetal at 80° for 1 h to afford 74.5% 4-dimethylamino-3-[imidazo[1,2-a]pyridine-6-yl]-3-butene-2-one (IV). A mixture of IV in DMF was heated with NCCH2CONH2 and MeONa at 80-90° for 12 h to give III (R1 = R2 = R3 = Z = H; Y = CN; W = Me), which at 100 µg/kg showed 97%, 22%, and -17% changes for cardiovascular contraction, heart beat, and blood pressure in dogs.

L13 ANSWER 27 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

## Title

Imidazo[1,2-b]pyridazines. II. 6-(Alkylthio)- and 6-(arylthio)-3-methoxy-2-phenylimidazo[1,2- b]pyridazines

## Author/Inventor

Barlin, Gordon B.; Ireland, Stephen J.

## Patent Assignee/Corporate Source

John Curtin Sch. Med. Res., Aust. Natl. Univ., Canberra, 2601, Australia

## Source

Australian Journal of Chemistry (1987 ), 40(8), 1491-7 CODEN: AJCHAS; ISSN: 0004-9425

## Document Type

Journal

## Language

English

## Abstract

A series of 6-(alkylthio)- and 6-(arylthio)-3-methoxy-2-phenylimidazol[1,2- b]pyridazines I (e.g., R = Me, Et, Ph, p-CIC6H4, p-Me2NC6H4) were prepared from the corresponding 3-aminopyridazines II by sequential cyclocondensation with PhCOCHO and methylation with CH2N2.

L13 ANSWER 28 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

## Title

Preparation of imidazopyridazinylacrylamides as antihypertensives, diuretics, and saluretics

## Author/Inventor

Meyer, Horst; Ingendoh, Axel; Garthoff, Bernward; Hirth, Claudia

## Patent Assignee/Corporate Source

Bayer A.-G. , Fed. Rep. Ger.

## Source

Ger. Offen., 22 pp. CODEN: GWXXBX

## Document Type

Patent

## Language

German

## Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3542661	A1	19870604	DE 1985-3542661	19851203

Patent Number (1)

DE 3542661

Kind Code (1)

A1

Patent Publication Date (1)

19870604  
 Application Number (1)  
 DE 1985-3542661  
 Application Date (1)  
 19851203  
 Priority Patent Number (1)  
 DE 1985-3542661  
 Priority Kind Code (1)  
 A  
 Priority Patent Publication Date (1)  
 19851203  
**Abstract**  
 The title compds. [I; R1 = H, alkoxy, (substituted) alkyl, alkenyl, aryl, heterocycl, alkylthio, sulfinyl, sulfonyl, amino, etc; R2,R3 = H, alkyl; R4 = (substituted) aryl, heterocycl; R5 = H, alkyl, CF3; R6 = H, cyano, halo, alkoxy, alkyl, alkylsulfonyl, etc; R7,R8 = H, aryl, (substituted) hydrocarbyl; R7R8N = heterocycl] were prep'd as antihypertensives, diuretics, and saluretics. 3-Formyl-2-phenyl-6-piperidinoimidazo[1,2-b]pyridazine was added to a mixture of diethyl phosphonodieethylacetamide and NaH in C6H6 and the mixture was stirred 1 h at 45° to give 69% I (R1 = 1-piperidinyl, R2 = R3 = R5 = R6 = H, R4 = Ph, R7 = R8 = Et). Rats administered 10 mg/kg I (R1 = Me, R2 = R3 = R5 = R6 = H, R4 = Ph, NR7R8 = 1-piperidinyl) had a urine output of 25 mL/kg containing 2900 µmol Na+/kg and 900 µmol K+ over 6 h.

#### L13 ANSWER 29 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

**Title**  
 Imidazo[1,2-b]pyridazines. I. Some 3-alkoxy-6-halo-2-phenyl-(and 4'-substituted phenyl)imidazo[1,2-b]pyridazines and 3-methoxy-2,6-diphenylimidazo[1,2-b]pyridazine  
**Author/Inventor**  
 Barlin, Gordon B.  
**Patent Assignee/Corporate Source**  
 John Curtin Sch. Med. Res., Aust. Natl. Univ., Canberra, 2601, Australia  
**Source**  
 Australian Journal of Chemistry (1986 ), 39(11), 1803-9 CODEN: AJCHAS; ISSN: 0004-9425  
**Document Type**  
 Journal  
**Language**  
 English  
**Abstract**  
 A series of the title imidazopyridazines I (R = F, Cl, Br, Ph; R1 = Me, Et; R2 = H, Cl, Br, MeO; R3 = R4 = H) have been prepared from the relevant pyridazin-3-amines and arylglyoxals, followed by O-alkylation of the corresponding imidazo[1,2-b]pyridazin-3(5H)-ones with diazoalkanes. 6-Chloro-3-methoxy-2-phenylimidazo[2,1-a]phthalazine I (R = Cl; R1 = Me; R2 = H; R3R4 = CH:CHCH:CH) was prepared similarly.

#### L13 ANSWER 30 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

**Title**  
 3-Imidazo[1,2-a]pyridin-6-ylpyridine derivatives  
**Author/Inventor**  
 Yamanaka, Motosuke; Miyake, Kazutoshi; Suda, Shinji; Ohara, Hideto; Ogawa, Toshiaki  
**Patent Assignee/Corporate Source**  
 Eisai Co., Ltd., Japan  
**Source**  
 Jpn. Kokai Tokkyo Koho, 21 pp. CODEN: JKXXAF  
**Document Type**  
 Patent  
**Language**  
 Japanese  
**Patent Information**

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61218589	A	19860929	JP 1985-59450	19850326

**Patent Number (1)**  
 JP 61218589  
**Kind Code (1)**  
 A  
**Patent Publication Date (1)**  
 19860929  
**Application Number (1)**  
 JP 1985-59450  
**Application Date (1)**  
 19850326  
**Priority Patent Number (1)**  
 JP 1985-59450  
**Priority Kind Code (1)**  
 A  
**Priority Patent Publication Date (1)**

19850326

Abstract

The title compds. [I; X = H, Me; Y = cyano, CONH<sub>2</sub>, H, NH<sub>2</sub>, halo; W, Z = H, alkyl; R<sub>1</sub> = H, alkyl, alkoxyethyl, (un)substituted amino, etc.; R<sub>2</sub> = H, halo; R<sub>3</sub> = H, alkyl, halo], useful as cardiac stimulants, vasodilators, and blood platelet aggregation inhibitors, were prepared. Thus, a mixture of 4-(dimethylamino)-3-(imidazo[1,2-a]pyridin-6-yl)-3-buten-2-one, DMF, and NCCH<sub>2</sub>CONH<sub>2</sub> was heated at 80-90° for 12 h to give 1,2-dihydro-5-(imidazo[1,2-a]pyridin-6-yl)-6-methyl-2-oxo-3-pyridinecarbonitrile. In vitro studies using guinea pig hearts showed that I at 10-4 to 10-6 M increased cardiac muscle contraction 34.1-110.1 %.

L13 ANSWER 31 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Studies on heterocyclic compounds. XXII. The reaction of oxazolo[3,2-b]pyridazinium perchlorates with hydroxylamines

Author/Inventor

Satoh, Kazue; Miyasaka, Tadashi

Patent Assignee/Corporate Source

Sch. Pharm. Sci., Showa Univ., Tokyo, 142, Japan

Source

Chemical & Pharmaceutical Bulletin (1983), 31(11), 3811-18 CODEN: CPBTAL; ISSN: 0009-2363

Document Type

Journal

Language

English

Abstract

The reaction of oxazolo[3,2-b]pyridazinium perchlorates (I; R = Me, Ph, OMe, Cl; R<sub>1</sub> = Ph, Me; R<sub>2</sub> = H, Me) with NH<sub>2</sub>OH and KOH in DMF gave hydroxyiminopyridazines II (X = O, NOH), which were cyclized to imidazo[1,2-b]pyridazine 1-oxides III (X<sub>1</sub> = N:O) by heating in mineral acid. The N oxides were characterized by converting them into the corresponding imidazopyridazines III (X<sub>1</sub> = N) by deoxygenation.

L13 ANSWER 32 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Synthesis of imidazo[1,2-b]pyridazine 1-oxides by the reaction of oxazolo[3,2-b]pyridazinium perchlorates with hydroxylamine

Author/Inventor

Satoh, Kazue; Miyasaka, Tadashi; Arakawa, Kiichi

Patent Assignee/Corporate Source

Sch. Pharm. Sci., Showa Univ., Tokyo, Japan

Source

Chemistry Letters (1977), (12), 1501-4 CODEN: CMLTAG; ISSN: 0366-7022

Document Type

Journal

Language

English

Abstract

The reaction of oxazolo[3,2-b]pyridazinium perchlorates I (R = Ph, R<sub>1</sub> = Cl, Me, Ph; R = Me, R<sub>1</sub> = Ph) with HONH<sub>2</sub> gave monooximes II and dioximes III, from both of which were prepared imidazo[1,2-b]pyridazine 1-oxides IV (n = 1) by heating in mineral acid. The N-oxides were characterized by converting into IV (n = o) deoxygenation.

L13 ANSWER 33 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Synthesis of 3-alkylthio-2-phenyl-5-(1-methyl-2-pyrrolidyl)- and 3-alkylthio-2-phenyl-7-(1-methyl-2-pyrrolidyl)pyrimidazoles

Author/Inventor

Godovikova, S. N.; Gol'dfarb, Ya. V.

Patent Assignee/Corporate Source

Inst. Org. Khim., Moscow, USSR

Source

Khim. Geterotsikl. Soedin., Sb. 1: Azotsoderzhashchie Geterotsikly (1967), 172-4. Editor(s): Hillers, S. Izd. "Zinatne": Riga, USSR. CODEN: 20NNAA

Document Type

Conference

Language

Russian

Abstract

The title compds. (I and II, resp.) were prepared for testing as fungicides by reaction of 3-bromo-2-phenyl-5-(1-methyl-2-pyrrolidyl)pyrimidazole (III) and 3-bromo-2-phenyl-7-(1-methyl-2-pyrrolidyl)pyrimidazole (IV) with BuLi, followed by reaction with alkyl disulfides. Thus, a mixture of 33.4 g. α'-aminonicotine, 31.3 g. BzCH<sub>2</sub>Br, and 200 ml. EtOH was refluxed 21 hrs. and worked up to give 66.4% 2-phenyl-5-(1-methyl-2-pyrrolidyl)pyrimidazole (V), m. 112.5-13°; picrate m. 234-6°; HBr salt m. 258-60°. A solution of 15.6 g. Br in CHCl<sub>3</sub> was added to a solution of 27.1 g. V in CHCl<sub>3</sub>, and the mixture stirred 2 hrs. and worked up to give 84.9% III, m. 74-6°; HBr salt m. 238-9°; picrate m. 191-3°. Similarly, 92.8% IV was prepared, m. 136.5-38°. To 10.7 g. III in 500 ml. Et<sub>2</sub>O and 100 ml. C<sub>6</sub>H<sub>6</sub> was added 0.033 mole BuLi in Et<sub>2</sub>O, and the mixture refluxed 3 hrs., 0.033 mole alkyl disulfide in 20 ml. Et<sub>2</sub>O added, and the mixture refluxed 9 hrs. and worked up to give the following I and II (compound type, R, m.p., % yield, m.p. picrate, and m.p. HBr salt given): I, Me, 91-2.5°, 61.4, 237-8°, 252°; I, Et, 108.5-9.2°, 90.5, 247°, 235-7°; I, Pr, - (oil), 74.8, 235-7°, 227-9°; II, Me, 94.5-5.5°, 62, 195-6°, 220-2°; and II, Et, - (oil), 55.6, 190-2°, 231-3°. Other compds. described are 5-bromo-2-phenyl-7-(1-methyl-2-pyrrolidyl)pyrimidazole, m. 120-2°, and an unknown compound, m. 141-2°, obtained in 80.5% yield from the reaction of III with 2

moles of BuLi, followed by reaction with Me2S.

L13 ANSWER 34 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Imidazopyridazine derivatives

Author/Inventor

Nitta, Yoshihiro; Yoneda, Fumio; Otaka, Takayuki

Patent Assignee/Corporate Source

Chugai Pharmaceutical Co., Ltd.

Source

4 pp.

Document Type

Patent

Language

Unavailable

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 40022267	B4	19651002	JP	19631029

Patent Number (1)

JP 40022267

Kind Code (1)

B4

Patent Publication Date (1)

19651002

Application Number (1)

JP

Application Date (1)

19631029

Priority Patent Number (1)

JP

Priority Patent Publication Date (1)

19631029

Abstract

Manufacture of 6-R1-2-(R2-phenyl)imidazo[1,2-b]pyridazine (I), useful as inhibitor for central nerves, starting from the corresponding 6-halo compound was described. Thus, 2.3 g. 6-chloro-2-phenylimidazo-[1,2- b]pyridazine is added to 100 ml. EtOH containing 0.9 g. NMe2, the whole heated at 160-70° for 3 hrs. in a sealed tube, an excess of EtOH removed, to the residue added H2O, and the precipitate recrystd. from MeOH to give 2.1 g. I (R1 = NMe2, R2 = H), m. 195°. Similarly prepared are the following I (R1, R2, and m.p. given): NMe2, OMe, 204°; NMe2, Cl, 203°; NMe2, Br, 197°; morpholino, H, 183-4°; morpholino, OMe, 198-9°; morpholino, Cl, 227°; morpholino, Br, 243°; piperidino, H, 169°; piperidino, OMe, 153°; piperidino, Cl, 222°; piperidino, Br, 221°; pyrrolidino, H, 187-8°; pyrrolidino, OMe, 190°; pyrrolidino, Cl, 210°; pyrrolidino, Br, 211°.

L13 ANSWER 35 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Synthesis of fused imidazo-heterocyclic systems

Author/Inventor

Werbel, Leslie M.; Zamora, Maria L.

Patent Assignee/Corporate Source

Parke, Davis & Co., Ann Arbor, MI

Source

Journal of Heterocyclic Chemistry (1965 ), 2(3), 287-90 CODEN: JHTCAD; ISSN: 0022-152X

Document Type

Journal

Language

English

Abstract

The reaction of phenylacyl bromide and a variety of  $\alpha$ -amino- heterocycles was investigated to determine its applicability to the preparation of fused imidazo-heterocyclic systems. The imidazo[1,2-a]pyrazine, imidazo [1,2-b] pyridazine, and imidazo[1,2-a]-benzimidazole systems and some variations of the imidazo[1,2-a]pyridine, imidazo[2,1-b] thiazole, imidazotriazine, imidazo[2,1-b]-1,3,4-thiadiazole systems are described.

L13 ANSWER 36 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Benzoazacycloalkanes

Author/Inventor

Rossi, Alberto P. A.; Werner, Lincoln H.; Bencze, William L.; DeStevens, George

Patent Assignee/Corporate Source

CIBA Ltd.

Source

55 pp.

Document Type

Patent

Language

Unavailable

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 641254		19640615	BE 1964-1254	19631213

Patent Number (1)

BE 641254

Patent Publication Date (1)

19640615

Application Number (1)

BE 1964-1254

Application Date (1)

19631213

Priority Patent Number (1)

US

Priority Patent Publication Date (1)

19621214

Abstract

EtOH was slowly evaporated from a mixture of 8.9 g. 3-phenyl-2,3,4,5-tetrahydro-1-benzazepine, 2.5 g. 2-chloromethyl-2-imidazoline hydrochloride, and 30 cc. EtOH and the residue heated for 3 hrs. at 110-20° and kept overnight to give the hydrochloride of I (R1 = R2 = R3 = R4 = H, R5 = Ph, A = A' = (CH2)2, X = 1,2-phenylene) (Ia), m. 280-3°. The corresponding hydrochloride where R5 = Me was obtained by treating 1 g. Ia in 10 cc. EtOH with 1 cc. MeI, allowing the mixture to stand at ambient temperature for about 80 hrs. and evaporating in vacuo, m. 145° (decomposition). A mixture of 6.9 g. 1-cyanomethyl-3-phenyl-1,2,3,4-tetrahydroquinoline, 2.52 g. ethylenediamine, and 3 drops CS2 was heated for 4 hrs. at 130-40° and worked up to give the HCl salt of I (R1 = R2 = R3 = R4 = R5 = H, A = CH2, A' = (CH2)2, X = 1,2-phenylene) m. 290-4° (EtOH). Similarly prepared were the following I (R2 = R3 = R6 = H) (R1, R4, A, A', X, and m.p. HCl salt given): H, 2-CIC6H4, (CH2)2, (CH2)2, 1,2-phenylene (Z), 212°; H, Ph, (CH2)2, (CH2)2, 4-chloro-1,2-phenylene, 238° (decomposition); H, 4-MeC6H4, (CH2)2, (CH2)2, Z, 190-200°; H, Ph, (CH2)2, CH2CHMe, Z, 220-2°; H, Ph, (CH2)2, (CH2)3, Z, 256-9°; H, 4-CIC6H4, (CH2)2, (CH2)2, Z, 239-41°; Ph, H, CH2, (CH2)2, Z, 220°; H, 4-CIC6H4, CH2, (CH2)2, Z, 284-6°. 3-(2-Chlorophenyl)-1-cyanomethyl-2,3,4,5-tetrahydro-1-benzazepine (II) was prepared as follows: 2-chlorobenzalacetophenone (III) was prepared by treating at 15-20° an ethanolic solution of 180 g. acetophenone in aqueous NaOH with 211 g. o-chlorobenzaldehyde, the mixture shaken for 3 hrs., allowed to stand overnight, and III isolated, m. 50-2°. An ethanolic solution of 121.4 g. III containing HOAc was treated with an aqueous solution of 65 g. KCN at 55°. After cooling to 10°, 2-(o-chlorophenyl)-4-oxo-4-phenylbutyronitrile (IV) was obtained, m. 104-7° (EtOH). Methyl 2-(o-chlorophenyl)-4-oxo-4-phenylbutyrate (V) was prepared by treating an ethanolic solution of 100 g. IV with 160 g. concentrated H2SO4 and refluxing for 2.5 hrs. V was isolated on cooling, m. 105-8°. The free acid (VI), m. 137-9° (EtOH), was obtained by hydrolyzing V with NaOH. VI was then hydrogenated in the presence of a Pd catalyst at 50-60° under a pressure of about 7 atmospheric 2-(2-Chlorophenyl)-4-phenylbutyric acid (VII) was isolated, b0.05 250°. VII was cyclized by adding a benzene solution of 50 g. VII to a suspension of 44 g. PCI5 in C6H6 and heating at 100° for 30 min. The mixture was concentrated and the purified residue dissolved in C6H6 and added to a suspension of 30.4 g. anhydrous AlCl3 in C6H6 which was shaken for 2 hrs. at ambient temperature, then at 60° for 3 hrs., allowed to stand overnight, and 2-(2-chlorophenyl)-1,2,3,4-tetrahydronaphthalen-1-one (VIII), b0.7 185-90°, isolated. A compound similarly prepared was 2-(p-chlorophenyl)-1,2,3,4-tetrahydronaphthalen-1-one, m. 108-9°. A solution of 50 g. VIII in HOAc was then treated with 16.5 g. NaNNH2 followed by treatment with 50 cc. concentrated H2SO4 to give 3-(2-chlorophenyl)-2,3,4,5-tetrahydro-1-benzazepin-2-one (IX), m. 240-2°. Compds. similarly prepared were 8-chloro-3-phenyl-2,3,4,5-tetrahydro-1-benzazepin-2-one, m. 224-7°; 3-(4-chlorophenyl)-2,3,4,5-tetrahydro-1-benzazepin-2-one, m. 193-5°, and 3-phenyl-2,3,4,5-tetrahydro-1-benzazepin-2-one, m. 196-8°. IX (26 g.) was then reduced with LiAlH4 in tetrahydrofuran to give 3-(2-chlorophenyl)-2,3,4,5-tetrahydro-1-benzazepine (X), m. 138-9°. Compds. similarly prepared were 8-chloro-3-phenyl-2,3,4,5-tetrahydro-1-benzazepine, m. 73-5°, 3-p-tolyl-2,3,4,5-tetrahydro-1-benzazepine, m. 76-8° 3-(p-chlorophenyl)-2,3,4,5-tetrahydro-1-benzazepine, m. 100-2°, and 3-phenyl-2,3,4,5-tetrahydro-1-benzazepine, m. 122-4°. X (6.2 g.) was treated with an aqueous HOAc solution of 0.72 g. formaldehyde and 1.4 g. NaCN. The product was extracted with C6H6, the extract dried, and evaporated to give II. Compds. similarly prepared were 8-chloro-1-cyanomethyl-3-phenyl-2,3,4,5-tetrahydro-1-benzazepine, m. 103-4°, 3-(p-chlorophenyl)-1-cyanomethyl-2,3,4,5-tetrahydro-1-benzazepine, m. 102-4°, 3-phenyl-1-cyanomethyl-2,3,4,5-tetrahydro-1-benzazepine, m. 119-20°, and 3-(p-chlorophenyl)-1-cyanomethyl-1,2,3,4-tetrahydroquinoline, m. 132-4°. 3-(p-Chlorophenyl)-1,2,3,4-tetrahydroquinoline (XI) was prepared as follows: 58.5 g. N-acetylglycine was condensed with 103.6 g. p-chlorobenzaldehyde in the presence of NaOAc and Ac2 at 115-20°. After 1 hr., the mixture was cooled, filtered, and the crude 4-(p-chlorobenzylidene)-2-methyl-2-oxazolin-5-one (XII) washed with hexane and Et2O, m. 142-4°. XII was then refluxed for 4 hrs. in aqueous Me2CO to give  $\alpha$ -acetylamino-p-chlorocinnamic acid (XIII), m. 118-20°. XIII (57.6 g.) was refluxed with N HCl for 3 hrs. to give 2-(p-chlorophenyl)pyruvic acid (XIV), m. 178-80°. Then, 60.1 g. XIV was condensed with 44.5 g. isatin in concentrated HCl at 51° to give 3-(p-chlorophenyl)quinoline-2,4-dicarboxylic acid (XV), m. 172-5° (decomposition). XV (63.7 g.) was decarboxylated by treating at 280° with 21 g. Cu powder suspended in mineral oil for 20 min. to give 3-(p-chlorophenyl)quinoline (XVI), m. 133-4° (EtOAc). XVI (15.1 g.) was hydrogenated over Raney Ni at 100° and 21.5 atmospheric to give XI, m. 106-8° (iso-ProOH).

L13 ANSWER 37 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

3-Alkylthio-2-phenyl-8-(or 6)-(1-methyl-2-pyrrolidyl)pyrimidazoles

Author/Inventor

Godovikova, S. N.

Patent Assignee/Corporate Source

Zelinskii, N.D., Institute of Organic Chemistry, Academy of Sciences, U.S.S.R. SOURCE From: Byul. Izobret. i Tovarnykh Znakov 1965(9), 25..

Document Type

Patent

Language

Unavailable

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 170513		19650423	SU	19640108

Patent Number (1)

SU 170513

Patent Publication Date (1)

19650423

Application Number (1)

SU

Application Date (1)

19640108

Priority Patent Number (1)

SU

Priority Patent Publication Date (1)

19640108

Abstract

The title compds. are prepared from the action of Br2 in CHCl3 on 2-phenyl-8-(or 6)-(1-methyl-2-pyrrolidyl)pyrimidazole followed by treatment of the mixture with BuLi and dialkyl disulfide.

L13 ANSWER 38 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Pyridazine derivatives. VI. Synthesis of derivatives of imidazo[1,2-b]pyridazines

Author/Inventor

Yoneda, Fumio; Otaka, Takayuki; Nitta, Yoshihiro

Patent Assignee/Corporate Source

Chugai Pharm. A.-G., Tokyo

Source

Chemical & Pharmaceutical Bulletin (1964 ), 12(11), 1351-6 CODEN: CPBTAL; ISSN: 0009-2363

Document Type

Journal

Language

German

Abstract

cf. CA 60, 10677e. The title compds. (I) were prepared for pharmacodynamic investigation. 3-Amino-6-chloropyridazine (2 g.) and 2.8 g. BzCH2Br (II) in 100 ml. EtOH refluxed and cooled gave 3 g. I (R = Cl, R' = H) (III), m. 190° (EtOH). III (0.7 g.) in 70 ml. EtOH hydrogenated over 0.2 g. 10% Pd-C until the calculated amount H was absorbed, the solution filtered and evaporated, and the residue neutralized with aqueous NH3 gave 0.4 g. I (R = R' = H) (IV), m. 124° (iso-Pr2O). The following I were prepared as III (R, R' and m.p. given): Cl, OMe (V), 214°; Cl, Cl (VI), 219°; Cl, Br (VII), 222°. V, VI, and VII hydrogenated as III gave the following resp. I (same data): H, OMe, 158°; H, Cl, 183-4°; H, Br, 194-5°. 3-Aminopyridazine (1.5 g.) and 3.0 g. II in 50 ml. EtOH refluxed 2 hrs. on a water bath and evaporated gave 4 g. 1-phenacyl-6-aminopyridazinium bromide (VIII), decomposed 219° (EtOH-Et2O). VIII (2 g.) in 50 ml. H2O refluxed 4 hrs. and cooled gave 1.5 g. IV. HBr, decomposed 266-7° (EtOH-iso-Pr2O), which neutralized with aqueous NH3 gave IV, identical (mixed m.p.) with IV prepared above. III (2.1 g.) heated 5 hrs. at 120-30° with 50 ml. absolute MeOH containing 0.5 g. Na in a pressure vessel, the solution filtered and evaporated, and the residue treated with H2O gave 2.5 g. I (R = MeO, R' = H) (VIIIa), m. 137.5° (EtOH). III (1.2 g.) and 25 ml. Me2NCH2CH2OH containing 0.13 g. Na heated 3 hrs. at 130-40° and worked up as above gave 1 g. I (R = Me2NCH2CH2O, R' = H), m. 107° (iso-Pr2O). The following I were similarly prepared (same data): MeO, MeO, 182°; MeO, Cl, 179°; MeO, Br, 178°; EtO, H, 132°; EtO, MeO, 131°; EtO, Cl, 162°; EtO, Br, 171°; PrO, H, 107°; PrO, MeO, 98°; PrO, Cl, 138-9°; PrO, Br, 168°; iso-PrO, H, 98°; iso-PrO, MeO, 110°; iso-PrO, Cl, 138-9°; iso-PrO, Br, 148-9°; Me2NCH2CH2O, MeO, 103-4°; Me2NCH2CH2O, Cl, 158°; Me2NCH2CH2O, Br, 172°; Et2NCH2CH2O, H, 102°; Et2NCH2CH2O, MeO, 75°; Et2NCH2CH2O, Cl, 129°; Et2NCH2CH2O, Br, 132.5°. III (1.5 g.) in 50 ml. EtOH containing excess Me2NH heated 5 hrs. at 170-80° in a pressure vessel and evaporated gave 1.5 g. I (R = Me2N, R' = H), m. 195° (EtOH). The following I were similarly prepared (same data): Me2N, MeO, 204°; Me2N, Cl, 203°; Me2N, Br, 197°; morpholino, H, 183-4°; morpholino, MeO, 198-9°; morpholino, Cl, 227°; morpholino, Br, 234°; piperidino, H, 169°; piperidino, MeO, 153°; piperidino, Cl, 222°; piperidino, Br, 221°; pyrrolidino, H, 187-8°; pyrrolidino, MeO, 190°; pyrrolidino, Cl, 210°; pyrrolidino, Br, 211°. III (6 g.) in 100 ml. 90% EtOH containing 6 g. KOH heated 4 hrs. at 160-70° in a pressure vessel, cooled, and evaporated, the residue treated with H2O, and the solution filtered and neutralized with aqueous HCl gave 5.5 g. I (R = HO, R' = H) (IX), m. 300° (EtOH). Similarly were prepared the following I (same data): HO, MeO, 287°; HO, Cl, 300°; HO, Br, 300°. IX (0.65 g.) in 20 ml. MeOH containing 0.21 g. KOH refluxed 2 hrs. with 1.03 g. Mel, the solution concentrated, and the residue treated with H2O gave 0.7 g. X (R = H), m. 120° (EtOH-H2O). Similarly were prepared the following X (R and m.p. given): MeO, 140-1°; Cl, 246-7°; Br, 261-2°. The uv spectra of IV, VIIIa, IX, and X (R = H) were recorded, as well as that of 2-phenylimidazo[1,2-a]pyridine (for comparison with IV).

L13 ANSWER 39 OF 39 CAPLUS COPYRIGHT 2008 ACS on STN

Title

8(and 6)-(1-methyl-2-pyrrolidyl)-2-phenylimidazo[1,2- a]pyridine

Author/Inventor

Gol'dfarb, Ya. L.; Andriichuk, M. V.

Document Type

Patent

Language

Unavailable				
Patent Information				
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 51041		19370531	RU	

Patent Number (1)  
RU 51041

Patent Publication Date (1)  
19370531

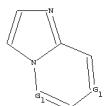
Application Number (1)  
RU

## Abstract

$\alpha$ - or  $\alpha'$ -Aminonicotine is heated in the presence of a solvent with  $\alpha$ -bromoacetophenone. Cf. C. A. 32, 1766.

=>

=>



ring nodes :

1 2 3 4 5 6 7 8 9

ring bonds :

1-2 1-5 1-9 2-3 3-

exact/norm bonds :

L14 STRUCTURE UPLOADED

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=> s l14 sss sam
SAMPLE SEARCH INITIATED 11:21:15 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -      11451 TO ITERATE
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17.5% PROCESSED      2000 ITERATIONS      50 ANSWERS  
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 222608 TO 235432  
PROJECTED ANSWERS: 78820 TO 86532

L15 50 SEA SSS SAM L14

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FULL SEARCH INITIATED 11:21:23 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 228722 TO ITERATE

100.0% PROCESSED 228722 ITERATIONS  
SEARCH TIME: 00.00.01

80930 ANSWERS

L16 80930 SEA SSS FUL L14

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L17 6936 L16

=> s l17 and electroluminescent  
68951 ELECTROLUMINESCENT  
6 ELECTROLUMINESCENTS  
68953 ELECTROLUMINESCENT  
(ELECTROLUMINESCENT OR ELECTROLUMINESCENTS)

L18 42 L17 AND ELECTROLUMINESCENT

=> s l18 and py<=2003  
23975208 PY<=2003  
L19 21 L18 AND PY<=2003

=> d l19 1-21 ibib abs

L19 ANSWER 1 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Carbazole derivative for organic electroluminescent devices and organic electroluminescent devices

Author/Inventor

Iwakuma, Toshihiro; Yamamoto, Hiroshi; Hironaka, Yoshio; Ikeda, Hidetsugu; Hosokawa, Chishio; Tomita, Seiji; Arakane, Takashi

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 68 pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003080760	A1	20031002	WO 2003-JP3329	20030319

Patent Number (1)

WO 2003080760

Kind Code (1)

A1

Patent Publication Date (1)

20031002

Application Number (1)

WO 2003-JP3329

Application Date (1)

20030319

Priority Patent Number (1)

JP 2002-81234

Priority Kind Code (1)

A

Priority Patent Publication Date (1)

20020322

Abstract

The invention refers to a material for blue electroluminescent devices having the structure (Cz)<sub>n</sub>A or Cz(A)<sub>n</sub> [Cz = (un)substituted arylcarbazolyl or carbazoyl alkylene; A = MpLqM'r; M,M' = (un)substituted C2-40 heteroarom. rings; L = single bond, (un)substituted C6-30 aryl or arylene, C5-30 cycloalkylene, photorefractive C2-30 heteroarom.; p,r = 0 - 2; q = 1 - 2; p + r > 1].

L19 ANSWER 2 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Blue-emitting organic electroluminescent devices of high color purity and materials therefor

Author/Inventor

Iwakuma, Toshihiro; Yamamoto, Hiroshi; Hironaka, Yoshio; Ikeda, Shuji; Hosokawa, Chishio

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

Jpn. Kokai Tokkyo Koho, 15 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003277743	A	20031002	JP 2002-80817	20020322

Patent Number (1)

JP 2003277743

Kind Code (1)

A

Patent Publication Date (1)

20031002

Application Number (1)

JP 2002-80817

Application Date (1)

20020322

Priority Patent Number (1)

JP 2002-80817

Priority Patent Publication Date (1)

20020322

Abstract

Compds. (Ind)nA or IndAm [Ind = arylindole or indolealkylene; A = MpLqM'r (M, M' = C2-40 azacyclic aromatic ring; L = single bond, C6-30 arylene, C5-30 cycloalkylene, C2-30 aromatic heterocycle; p = 0-2; q = 1-2; r = 0-2; p + r ≥ 1)] are claimed. Blue-emitting electroluminescent devices including (emission) layers containing the compds. as host materials are also claimed.

L19 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Materials for organic blue electroluminescent device for organic electroluminescent display

Author/Inventor

Iwakuma, Toshihiro; Hosokawa, Chishio; Yamamoto, Hiroshi

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

Jpn. Kokai Tokkyo Koho, 10 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003268362	A	20030925	JP 2002-71397	20020315

Patent Number (1)

JP 2003268362

Kind Code (1)

A

Patent Publication Date (1)

20030925

Application Number (1)

JP 2002-71397

Application Date (1)

20020315

Priority Patent Number (1)

JP 2002-71397

Priority Patent Publication Date (1)

20020315

Abstract

The title material contains compound (Ind-)nMm ( Ind = indole; M = C2-40 heterocyclic ring containing N; n,m = 1-3 integer). The device provides blue with good color purity.

L19 ANSWER 4 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Double-spiro organic compounds and electroluminescent devices

Author/Inventor

Kim, Kong-Kyeum; Son, Se-Hwan; Yoon, Seok-Hee; Bae, Jae-Soon; Lee, Youn-Gu; Im, Sung-Gap; Kim, Ji-Eun; Lee, Jae-Chol

Patent Assignee/Corporate Source

LG Chem, Ltd., S. Korea

Source

PCT Int. Appl., 117 pp. CODEN: PIXXD2

Document Type  
Patent

Language  
English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002088274	A1	20021107	WO 2002-KR458	20020318

Patent Number (1)  
WO 2002088274

Kind Code (1)  
A1

Patent Publication Date (1)  
20021107

Application Number (1)  
WO 2002-KR458

Application Date (1)  
20020318

Priority Patent Number (1)  
KR 2001-23038

Priority Kind Code (1)  
A

Priority Patent Publication Date (1)  
20010427

Abstract

Double-spiro organic compds. are claimed which are described by the general formula I (R1-24 = independently selected substituents not all of which are H). Light-emitting, hole-transporting, and electron-transporting materials comprising the compds. are also described. Electroluminescent materials comprising the compds, including deposited films, methods for depositing the materials, and organic electroluminescent devices employing the materials, and method for fabricating the devices, are also described.

L19 ANSWER 5 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Red-emitting organic electroluminescent devices with high electric energy conversion efficiency and color purity

Author/Inventor

Tominaga, Takeshi; Murase, Seiichiro; Kohama, Toru

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 13 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002008862	A	20020111	JP 2000-184268	20000620

Patent Number (1)  
JP 2002008862

Kind Code (1)  
A

Patent Publication Date (1)  
20020111

Application Number (1)  
JP 2000-184268

Application Date (1)  
20000620

Priority Patent Number (1)  
JP 2000-184268

Priority Patent Publication Date (1)  
20000620

Abstract

The devices having emission peak at 580-750 nm, contain fluorescent substances having fluorescent peak at 540-750 nm and condensed heterocyclic compds. (which may be dopants), between anodes and cathodes. The compds. may have polar groups, vinyl groups, aromatic rings, and/or heterocyclic rings. The devices are useful for matrix-type displays (e.g., computers, televisions) and segment-type displays (e.g., clocks, thermometers).

L19 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent devices using condensed heterocyclic rings

Author/Inventor

Taguchi, Toshiki; Mishima, Masayuki; Ise, Toshihiro; Okada, Hisashi  
Patent Assignee/Corporate Source

Fuji Photo Film Co., Ltd., Japan

Source Jpn. Kokai Tokkyo Koho, 17 pp. CODEN: JKXXAF

Document Type Patent

Language Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001357977	A	20011226	JP 2000-175981	20000612

Patent Number (1)  
JP 2001357977

Kind Code (1)  
A

Patent Publication Date (1)  
20011226

Application Number (1)  
JP 2000-175981

Application Date (1)  
20000612

Priority Patent Number (1)  
JP 2000-175981

Priority Patent Publication Date (1)  
20000612

Abstract

The invention relates to an organic electroluminescent device comprising a pair of electrodes sandwiching  $\geq 1$  layer(s) containing  $\geq 1$  condensed heterocyclic compds. represented by I ( $X = C, N$ ;  $Z_1$  and  $Z_2$  may form a N-containing heterocycl) and ortho metal (Ir) complexes. The device shows high luminance, luminescent efficiency, and superior in durability.

L19 ANSWER 7 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Electroluminescent device using condensed rings

Author/Inventor

Kohama, Toru; Tominaga, Takeshi; Murase, Seiichiro

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 12 pp. CODEN: JKXXAF

Document Type Patent

Language Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001338764	A	20011207	JP 2000-159883	20000530

Patent Number (1)  
JP 2001338764

Kind Code (1)  
A

Patent Publication Date (1)  
20011207

Application Number (1)  
JP 2000-159883

Application Date (1)  
20000530

Priority Patent Number (1)  
JP 2000-159883

Priority Patent Publication Date (1)  
20000530

Abstract

The invention relates to a red-emitting electroluminescent device having the emission peak in 580 - 720 nm between the anode and the cathode, wherein the electroluminescent layer comprises the fluorescent substance having the emission peak in 540 - 720 nm as a host material, and the condensed rings I, II, III [R1-46 = the same or different groups selected from H, alkyl, alkoxy, halo, aryl, aralkyl, alkenyl, aryl ether, heterocycl, cyano, aldehyde, CO, ester, carbamoyl, amino and fused rings or aliphatic rings formed with adjacent substituents]. The red luminous component offers superior in color purity.

L19 ANSWER 8 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Electroluminescent device using coumarin derivatives

Author/Inventor

Kohama, Toru; Tominaga, Takeshi; Murase, Seiichiro

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 10 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001338763	A	20011207	JP 2000-159882	20000530

Patent Number (1)

JP 2001338763

Kind Code (1)

A

Patent Publication Date (1)

20011207

Application Number (1)

JP 2000-159882

Application Date (1)

20000530

Priority Patent Number (1)

JP 2000-159882

Priority Patent Publication Date (1)

20000530

Abstract

The invention relates to a red-emitting electroluminescent device having the emission peak in 580 - 720 nm between the anode and the cathode, wherein the electroluminescent layer comprises the fluorescent substance having the emission peak in 540 - 720 nm as a host material, and the coumarins I [R1-6 = the same or different groups selected from H, alkyl, alkoxy, halo, aryl, aralkyl, alkenyl, aryl ether, heterocyclyl, cyano, aldehyde, CO, ester, carbamoyl, amino and fused rings or aliphatic rings formed with adjacent substituents]. The red luminous component offers superior in color purity.

L19 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent device

Author/Inventor

Kohama, Toru; Tominaga, Takeshi; Murase, Seiichiro

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 11 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001313175	A	20011109	JP 2000-129396	20000428

Patent Number (1)

JP 2001313175

Kind Code (1)

A

Patent Publication Date (1)

20011109

Application Number (1)

JP 2000-129396

Application Date (1)

20000428

Priority Patent Number (1)

JP 2000-129396

Priority Patent Publication Date (1)

20000428

Abstract

The invention relates to a red-emitting organic electroluminescent device having the emission peak in 580-720 nm, suited for use in making segment- and matrix-type displays, a backlight, an illumination apparatus, etc., wherein the electroluminescent layer comprises the fluorescent substance having the emission peak in 540-720 nm, as a host material, and the polycyclic ketone represented by I and II [R1-17 = H, alkyl, alkoxy, halo, etc.], as a dopant.

L19 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organometallic electroluminescent devices

Author/Inventor

Kitasawa, Daisuke; Tominaga, Takeshi; Takano, Akiko

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 9 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001057292	A	20010227	JP 1999-233791	19990820

Patent Number (1)

JP 2001057292

Kind Code (1)

A

Patent Publication Date (1)

20010227

Application Number (1)

JP 1999-233791

Application Date (1)

19990820

Priority Patent Number (1)

JP 1999-233791

Priority Patent Publication Date (1)

19990820

Abstract

The devices comprise a phosphor containing a metal complex having ligands comprising an imidazopyridine derivative I ( $R1-6 = H$ , alkyl, cycloalkyl, aralkyl, alkenyl, cycloalkenyl, OH, mercapto, alkoxy, alkylthio, aryloether, arylthioether, aryl, heterocyclic, halo, haloalkane, haloalkane, haloalkene, CN, aldehyde, carbonyl, carboxyl, ester, carbo moi, amino, nitro, silyl, siloxanyl).

L19 ANSWER 11 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent device

Author/Inventor

Nakatsuka, Masakatsu; Shimamura, Takehiko

Patent Assignee/Corporate Source

Mitsui Chemicals Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 43 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001035664	A	20010209	JP 1999-206147	19990721

Patent Number (1)

JP 2001035664

Kind Code (1)

A

Patent Publication Date (1)

20010209

Application Number (1)

JP 1999-206147

Application Date (1)

19990721

Priority Patent Number (1)

JP 1999-206147

Priority Patent Publication Date (1)

19990721

Abstract

The invention relates to an organic electroluminescent device comprising an azaindolizine-containing layer placed between a pair of electrodes.

L19 ANSWER 12 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent devices

Author/Inventor

Tominaga, Takeshi; Kohama, Toru; Takano, Akiko

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 20 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001006877	A	20010112	JP 1999-174058	19990621

Patent Number (1)

JP 2001006877

Kind Code (1)

A

Patent Publication Date (1)

20010112

Application Number (1)

JP 1999-174058

Application Date (1)

19990621

Priority Patent Number (1)

JP 1999-174058

Priority Patent Publication Date (1)

19990621

Abstract

The devices comprise an imidazopyridine phosphor I ( $R1-6 = H$ , alkyl, cycloalkyl, aralkyl, alkenyl, cycloalkenyl, alkoxy, alkylthio, aryl ether, aryl thioether, aryl, heterocyclic, halo, cyano, aldehyde, carbonyl, carboxyl, ester, carbamoyl, amino, nitro, silyl, siloxanyl).

L19 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Electroluminescent element and devices

Author/Inventor

Kohama, Akira; Tominaga, Tsuyoshi; Kitazawa, Daisuke; Himeshima, Yoshio

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Eur. Pat. Appl., 22 pp. CODEN: EPXXDW

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1000998	A1	20000517	EP 1999-308823	19991105

Patent Number (1)

EP 1000998

Kind Code (1)

A1

Patent Publication Date (1)

20000517

Application Number (1)

EP 1999-308823

Application Date (1)

19991105

Priority Patent Number (1)

JP 1998-317681

Priority Kind Code (1)

A

Priority Patent Publication Date (1)

19981109

Abstract

Electroluminescent devices are described which emit a peak wavelength at  $\leq 580$  nm in which the active material contains at least a fluorescent compound with a fluorescence maximum at  $\geq 540$  nm or above and a compound with a pyromethene structure described by the general formula I or a metal complex thereof ( $R1-7 =$  the same or different groups selected from H, alkyl, alkoxy,

halo, aryl, aralkyl, alkenyl, aryl ether, heterocyclic, cyano, aldehyde, CO, ester, carbamoyl, amino and fused rings or aliphatic rings formed with adjacent substituents; and X = C or nitrogen, with the restriction that, where X = nitrogen, R7 is absent). Display, signaling and illumination devices employing the elements are described.

L19 ANSWER 14 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic Pigment Nanoparticle Thin Film Devices via Lewis Acid Pigment Solubilization

Author/Inventor

Hsieh, Bing R.; Melnyk, Andrew R.

Patent Assignee/Corporate Source

Xerox Corporation, Webster, NY, 14580, USA

Source

Chemistry of Materials (1998), 10(9), 2313-2316 CODEN: CMATEX; ISSN: 0897-4756

Document Type

Journal

Language

English

Abstract

Lewis acid pigment solubilization (LAPS) deposition of thin films of pigment particles is useful for fabrication of pigment-based organic semiconductor devices like light-emitting diodes, photodiodes, solar cells and field effect transistors. The process involves the solubilization of a pigment in a Lewis acid/nitromethane solution, and casting the pigment/Lewis acid thin films on substrates with a predeposited adhesive layer. The authors applied the LAPS process for fabrication of multilayer electrophotog. organic photoconductors. A mixture containing bis(benzimidazole)perylene (BZP), AlCl<sub>3</sub>, nitromethane, and methylene chloride was stirred under N<sub>2</sub>, and coated on a metalized Mylar support overcoated with a thin 2-aminopropyltriethoxysilane primer layer and DuPont 46K polyester adhesive layer. The molar ratio of BZP to AlCl<sub>3</sub> was 1:6, solns. having 2 weight% BZP were easily filtered through a 0.45 µm filter, but solns. with higher pigment concns. could not be easily filtered. The as-cast BZP/AlCl<sub>3</sub> layers were washed with water, followed by wash with aqueous Na<sub>2</sub>CO<sub>3</sub> (or NH<sub>4</sub>OH) to produce charge-generation layer. The transport layer was deposited by draw bar coating of a solution containing N,N'-diphenyl-N,N'-(m-tolyl)-1,1'-biphenyl-4,4'-diamine, Macrolon and methylene chloride. The pigment can also be dispersed in an electrophotoactive polymer binders. Xerog. properties of the photoconductors prepared by LAPS method had good photosensitivity, high cyclic stability, low dark decay and residual charges.

L19 ANSWER 15 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

An organic light emitting device containing a protection layer

Author/Inventor

Thompson, Mark E.; Forrest, Stephen R.; Burrows, Paul; Garbuzov, Dmitri Z.; Shen, Zilan; Cronin, Jon A.; et al.

Patent Assignee/Corporate Source

The Trustees of Princeton University, USA; The University of Southern California

Source

PCT Int. Appl., 107 pp. CODEN: PIXXD2

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9828767	A1	19980702	WO 1997-US23952	19971223

Patent Number (1)

WO 9828767

Kind Code (1)

A1

Patent Publication Date (1)

19980702

Application Number (1)

WO 1997-US23952

Application Date (1)

19971223

Priority Patent Number (1)

US 1996-771815

Priority Kind Code (1)

A

Priority Patent Publication Date (1)

19961223

Abstract

Organic light-emitting devices comprising a heterostructure for producing electroluminescence are described in which the heterostructure includes a protection layer between a hole-transporting layer and an (e.g., indium tin oxide) anode layer; devices incorporating down-conversion layers are also described. Methods of fabricating the devices are provided, and the use of the devices in displays is described.

L19 ANSWER 16 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

**Title** Exchanging light and charges in electronic polymers  
**Author/Inventor** Jenekhe, Samson A.; Zhang, Xuejun  
**Patent Assignee/Corporate Source** Dep. Chemical Eng., Univ. Rochester, Rochester, NY, 14627, USA  
**Source** Annual Technical Conference - Society of Plastics Engineers (1996 ), 54th(Vol. 2), 1323-1326 CODEN: ACPE4; ISSN: 0272-5223  
**Document Type** Journal  
**Language** English  
**Abstract** Optoelectronic devices such as xerog. photoreceptors (PRs) and light emitting diodes (LEDs) represent two examples of promising applications of semiconducting polymers. In the former example, efficient generation of charge carriers from absorbed light is the central focus. In the latter examples, efficient generation of light from injected charges is the goal. To explore the nature of these light ↔ charges exchange processes in electronic polymers we have fabricated and evaluated bilayer photoreceptors and bilayer LEDs from conjugated polymers. The efficiencies and other performance characteristics of these devices are shown to depend not only on mol. structure and intrinsic properties of the materials but also on the "polymer device engineering" factors such as the polymer/polymer interfaces.

L19 ANSWER 17 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

**Title** Organic electroluminescent device  
**Author/Inventor** Kang, Wen-Bing; Yu, Nu; Tokida, Akihiko; Potrawa, Thomas; Winterfeldt, Andreas  
**Patent Assignee/Corporate Source** Hoechst A.-G., Germany  
**Source** PCT Int. Appl., 19 pp. CODEN: PIXXD2  
**Document Type** Patent  
**Language** English  
**Patent Information**

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9605267	A1	19960222	WO 1995-EP3128	19950807

**Patent Number (1)**  
WO 9605267

**Kind Code (1)**  
A1

**Patent Publication Date (1)**  
19960222

**Application Number (1)**  
WO 1995-EP3128

**Application Date (1)**  
19950807

**Priority Patent Number (1)**  
JP 1994-185820

**Priority Kind Code (1)**  
A

**Priority Patent Publication Date (1)**  
19940808

**Abstract**

Organic electroluminescent devices comprising an anode, and organic hole transport layer, an organic emission layer, an optional electron transport layer, and a cathode layered in this order on a substrate, are described in which the organic emission layer comprises a naphthalimide derivative described by the formula I (R1 = a hydrogen atom, a straight or branched chain C1-16 alkyl group, and aryl group which may have ≥1 substituents or an aralkyl group which may have ≥1 substituents; R2, R3, R4 = independently selected C1-16 alkyl, C1-16 alkoxy, C1-16 ester, optionally substituted C4-10 aryl, or optionally substituted C4-10 aryloxy groups, -CN, -CF<sub>3</sub>, -F, or -NR<sub>5</sub>R<sub>6</sub>; R5, R6 = independently selected C1-16 alkyl groups or optionally substituted C4-10 aryl groups; and m, n, p = 0, 1, 2, or 3).

L19 ANSWER 18 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

**Title** Conjugated polymer exciplexes and applications thereof  
**Author/Inventor** Jenekhe, Samson A.; Osaheni, John A.  
**Patent Assignee/Corporate Source** Research Corp. Technologies, Inc., USA  
**Source** PCT Int. Appl., 188 pp. CODEN: PIXXD2

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9512628	A1	19950511	WO 1994-US12322	19941028

Patent Number (1)

WO 9512628

Kind Code (1)

A1

Patent Publication Date (1)

19950511

Application Number (1)

WO 1994-US12322

Application Date (1)

19941028

Priority Patent Number (1)

US 1993-146266

Priority Kind Code (1)

A

Priority Patent Publication Date (1)

19931102

Abstract

Exciplexes with good luminescence, photogeneration of charge carriers, and quantum efficiency are formed from a  $\pi$ -conjugated polymers such as poly(p-phenylenebenzobisoxazole) (I) and an electron donor or acceptor component. Also claimed are assemblies comprising these exciplexes, their use in optoelec. devices and a method of enhancing optoelec. properties of  $\pi$ -conjugated polymers by forming these exciplexes . A typical I-tris(p-tolyl)amine (II) exciplex was prepared by spin-coating a MeNO<sub>2</sub> solution of I and AlCl<sub>3</sub> onto glass and fused silica substrates and overcoating with a CH<sub>2</sub>Cl<sub>2</sub> solution containing a 40:60 II-bisphenol A polycarbonate mixture

L19 ANSWER 19 OF 21 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic photoreceptors and their film light-emitting devices

Author/Inventor

Maruyama, Shigeru; Kosho, Noboru; Origasa, Hitoshi; Kawate, Kenji

Patent Assignee/Corporate Source

Fuji Electric Co Ltd, Japan

Source

Jpn. Kokai Tokkyo Koho, 27 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05134430	A	19930528	JP 1991-297513	19911114

Patent Number (1)

JP 05134430

Kind Code (1)

A

Patent Publication Date (1)

19930528

Application Number (1)

JP 1991-297513

Application Date (1)

19911114

Priority Patent Number (1)

JP 1991-297513

Priority Patent Publication Date (1)

19911114

Abstract

The title organic optical device utilize a charge/light-emission layer and a charge injection transporting layer, the formation layer effects corrosion between charge (pos. hole and electron pair) and light with light emission (from the light-generating material) resulting from the injection of charge from the charge-transporting layer and charge generation resulting from exposure to light, and the latter layer comprising a charge-transporting material and a poly(phenylene oxide) binder simultaneous to effecting charge transfer with the charge/light-conversion layer effects the flow of charge under a potential gradient. Polycarbonate may also be used as binder, and the charge-transporting material may be a diamine, hydrazone, or a stilbene derivative

## Title

Organic electroluminescent devices

## Author/Inventor

Utsuki, Koji; Nagahata, Emi

## Patent Assignee/Corporate Source

Nippon Electric Co, Japan

## Source

Jpn. Kokai Tokkyo Koho, 5 pp. CODEN: JKXXAF

## Document Type

Patent

## Language

Japanese

## Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05041282	A	19930219	JP 1991-196341	19910806

## Patent Number (1)

JP 05041282

## Kind Code (1)

A

## Patent Publication Date (1)

19930219

## Application Number (1)

JP 1991-196341

## Application Date (1)

19910806

## Priority Patent Number (1)

JP 1991-196341

## Priority Patent Publication Date (1)

19910806

## Abstract

The device comprises : an electron-injecting electrode; an optional organic electron-transport layer (oxidation potential X = X1); an organic phosphor (X = X2); an organic hole-transport layer ( X = X3); and a transparent electrode-formed substrate, wherein X1 > X2, X1 > X3, and X3 > X2. An alternative device comprises an organic phosphor (X = X4, reduction potential Y = Y4) which is dispersed in an electron-transport layer (X = X5, Y = Y5), wherein X4 > X5 and Y4 > Y5. The devices having a low threshold exhibit a high conversion efficiency.

## Title

Organic thin-film electroluminescent elements

## Author/Inventor

Utsuki, Koji; Takahashi, Hiroshi

## Patent Assignee/Corporate Source

NEC Corp., Japan; Nippon Soda Co., Ltd.

## Source

Jpn. Kokai Tokkyo Koho, 6 pp. CODEN: JKXXAF

## Document Type

Patent

## Language

Japanese

## Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04110390	A	19920410	JP 1990-232100	19900831

## Patent Number (1)

JP 04110390

## Kind Code (1)

A

## Patent Publication Date (1)

19920410

## Application Number (1)

JP 1990-232100

## Application Date (1)

19900831

## Priority Patent Number (1)

JP 1990-232100

## Priority Patent Publication Date (1)

19900831

## Abstract

The element comprises: (1) a transparent substrate, (2) a transparent electrode, (3) an optional hole-transport, (4) a phosphor, (5) an optional electron-transport, and (6) a (transparent) electrode layer, wherein (2)-(5) employ organic materials; and (4) consists of a pyridimidazoquinoline derivative I(R1-8=H, halo, OH, NO<sub>2</sub>, (un)substituted-alkyl, -aryl, -pyridyl, -benzoyl). The element provides a

luminous yellow-emitting defect-free light source for large-area flat displays.

$\Rightarrow$

## Connecting via Winsock to STN

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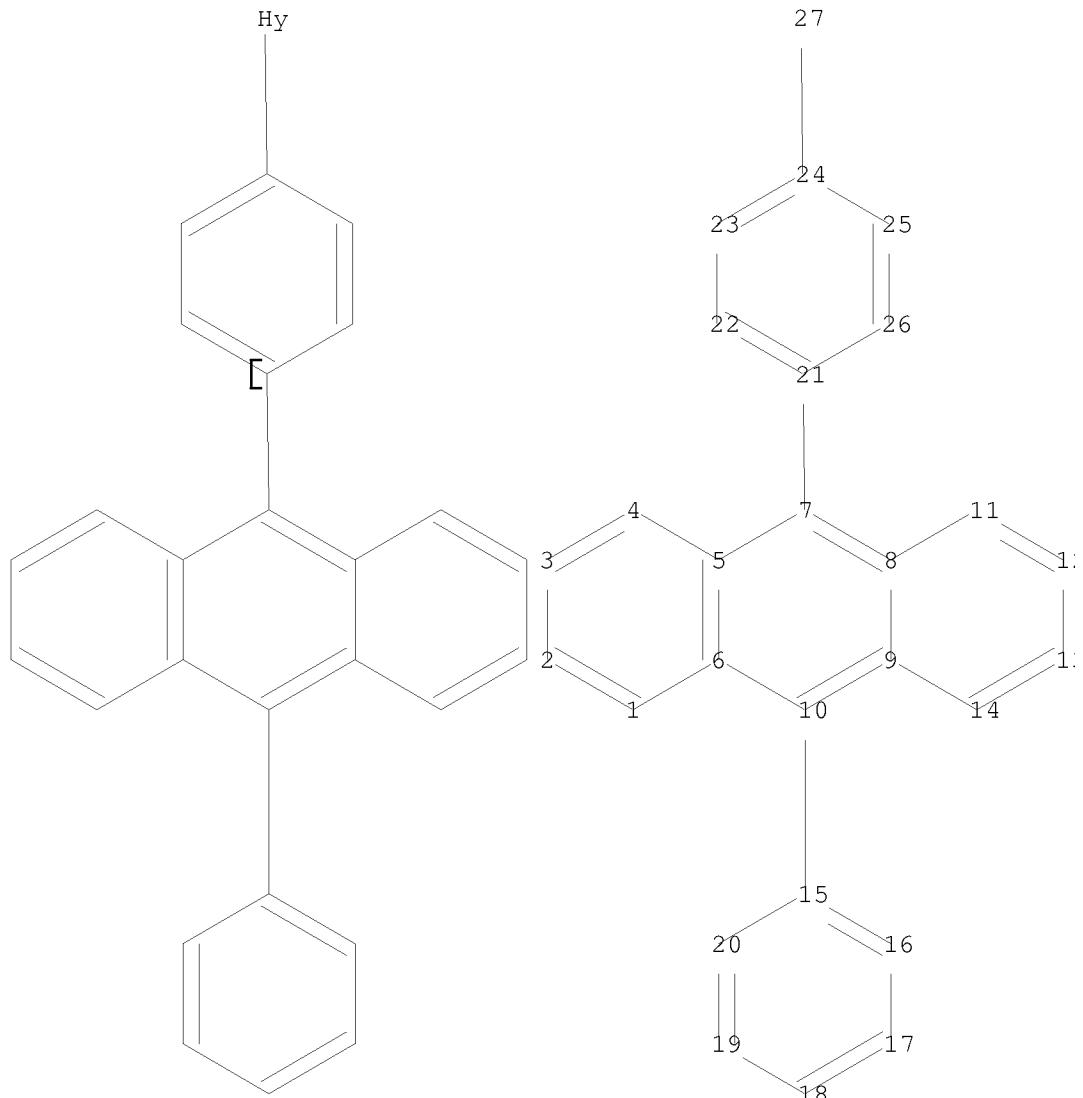
LOGINID:SSPTAMEN1774

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

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chain nodes :

27

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

chain bonds :

7-21 10-15 24-27

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-10 7-8 8-9 8-11 9-10 9-14 11-12 12-13 13-14 15-16 15-20 16-17 17-18 18-19  
19-20 21-22 21-26 22-23 23-24 24-25 25-26

exact/norm bonds :

21-22 21-26 22-23 23-24 24-25 24-27 25-26

exact bonds :

7-21 10-15

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-10 7-8 8-9 8-11 9-10 9-14 11-12 12-13 13-14 15-16 15-20 16-17 17-18 18-19  
19-20

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom  
15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom  
27:Atom

L1 STRUCTURE uploaded

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SAMPLE SEARCH INITIATED 16:44:51 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 3250 TO ITERATE

61.5% PROCESSED 2000 ITERATIONS 29 ANSWERS  
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 61581 TO 68419  
PROJECTED ANSWERS: 531 TO 1353

L2 29 SEA SSS SAM L1

=> s 11 sss full  
FULL SEARCH INITIATED 16:44:56 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 66509 TO ITERATE

100.0% PROCESSED 66509 ITERATIONS 762 ANSWERS  
SEARCH TIME: 00.00.01

L3 762 SEA SSS FUL L1

=> s 13  
L4 262 L3

=> s 14 and (electroluminescent or electroluminescence)  
68951 ELECTROLUMINESCENT  
6 ELECTROLUMINESCENTS  
68953 ELECTROLUMINESCENT  
(ELECTROLUMINESCENT OR ELECTROLUMINESCENTS)  
22377 ELECTROLUMINESCENCE  
25 ELECTROLUMINESCENCES  
22381 ELECTROLUMINESCENCE  
(ELECTROLUMINESCENCE OR ELECTROLUMINESCENCES)  
L5 186 L4 AND (ELECTROLUMINESCENT OR ELECTROLUMINESCENCE)

=> s 15 and py<=2003  
23975208 PY<=2003  
L6 37 L5 AND PY<=2003  
=> d 16 1-37 ibib abs

L6 ANSWER 1 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic light-emitting diode devices with improved operational stability

Author/Inventor

Jarikov, Viktor V.

Patent Assignee/Corporate Source

Eastman Kodak Company, USA

Source

U.S. Pat. Appl. Publ., 108 pp., Cont.-in-part of U.S. Ser. No. 131,801, abandoned. CODEN: USXXCO

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004076853	A1	20040422	US 2003-634324	20030805

Patent Number (1)

US 2004076853

Kind Code (1)

A1

Patent Publication Date (1)

20040422

Application Number (1)

US 2003-634324

Application Date (1)

20030805

Priority Patent Number (1)

US 2002-131801

Priority Kind Code (1)

B2

Priority Patent Publication Date (1)

20020424

Abstract

Organic light-emitting devices which comprise a substrate; an anode and a cathode disposed over the substrate; a luminescent layer disposed between the anode and the cathode are described in which the luminescent layer includes a host and  $\geq 1$  dopant; the host including a solid organic material comprising a mixture of  $\geq 2$  components including a first component that is an organic compound capable of transporting either electrons and/or holes and of forming both monomer state and an aggregate state and a second component of that is an organic compound that upon mixing with the first host component is capable of forming a continuous and substantially pin-hole-free layer, while the dopant is selected to produce light from the light-emitting device. The first component is capable of forming an aggregate state either in the ground electronic state or in an excited electronic state that results in a different absorption or emission spectrum or both relative to the absorption or emission spectrum or both of the monomer state, resp., or of forming an aggregate state whose presence results in a quantum yield of luminescence of the monomer state being different relative to the quantum yield of luminescence of the monomer state in the absence of the aggregate state. The aggregate state may be crystalline

L6 ANSWER 2 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

New organic compounds for electroluminescence and organic electroluminescent devices using the same

Author/Inventor

Kim, Ji-Eun; Son, Se-Hwan; Bae, Jae-Soo; Lee, Youn-Gu; Kim, Kong-Kyeum; Lee, Jae-Chol; Jang, Jun-Gi; Im, Sung-Gap

Patent Assignee/Corporate Source

LG Chem, Ltd., S. Korea

Source

PCT Int. Appl., 145 pp. CODEN: PIXXD2

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003095445	A1	20031120	WO 2003-KR899	20030506

Patent Number (1)

WO 2003095445

Kind Code (1)

A1  
Patent Publication Date (1)  
20031120

Application Number (1)  
WO 2003-KR899

Application Date (1)  
20030506

Priority Patent Number (1)  
KR 2002-25084

Priority Kind Code (1)  
A

Priority Patent Publication Date (1)  
20020507

Abstract

Disclosed is a novel group of compds. having a general structure of anthracene body substituted with at least one thiophenyl group, which can be further substituted with various substituent groups. These new compds. are generally compatible with organic electroluminescence. Also disclosed are organic electroluminescent devices and method of making the same. The organic electroluminescent devices include at least one of the compds. in various layers thereof. Organic electroluminescent devices employing the new compds. in their light-emitting layers show outstanding stability.

L6 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Electroluminescent devices

Author/Inventor

Xie, Shuang

Patent Assignee/Corporate Source  
Can.

Source

U.S. Pat. Appl. Publ., 32 pp. CODEN: USXXCO

Document Type  
Patent

Language  
English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003215667	A1	20031120	US 2001-985204	20011102

Patent Number (1)  
US 2003215667

Kind Code (1)  
A1

Patent Publication Date (1)  
20031120

Application Number (1)  
US 2001-985204

Application Date (1)  
20011102

Priority Patent Number (1)  
US 2001-985204

Priority Patent Publication Date (1)  
20011102

Abstract

Organic electroluminescent devices are described which are provided with active layers comprising a host based on  $\geq 1$  anthracene derivative doped with  $\geq 1$  anthracene derivative and/or coumarin derivative and/or an electron injecting/transporting layer comprising a diphenylanthracene derivative with benzazole derivs. attached to the Ph groups. Application to displays is indicated.

L6 ANSWER 4 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent device and novel thiophene derivative

Author/Inventor

Ishida, Tsutomu; Shimamura, Takehiko; Tanabe, Yoshimitsu; Totani, Yoshiyuki; Nakatsuka, Masakatsu

Patent Assignee/Corporate Source

Mitsui Chemicals Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 48 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003282268	A	20031003	JP 2002-112966	20020416

Patent Number (1)  
JP 2003282268

Kind Code (1)  
A

Patent Publication Date (1)  
20031003

Application Number (1)  
JP 2002-112966

Application Date (1)  
20020416

Priority Patent Number (1)  
JP 2002-9104

Priority Kind Code (1)  
A

Priority Patent Publication Date (1)  
20020117

#### Abstract

The invention refers to an organic electroluminescent device comprising a novel thiophene derivative I [Ar = (un)substituted anthryl; Z1-3 = H, halo, straight chain, branched or cyclic alkyl, alkoxy, (un)substituted amino, aryl or aralkyl] in at least one layer.

L6 ANSWER 5 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

#### Title

Anthracene compounds, their organic EL device materials, and their EL devices having high emission efficiency, long service life, and good heat resistance

#### Author/Inventor

Hosokawa, Chishio; Funabashi, Masakazu; Ikeda, Shuji; Yamamoto, Hiroshi

#### Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

#### Source

Jpn. Kokai Tokkyo Koho, 23 pp. CODEN: JKXXAF

#### Document Type

Patent

#### Language

Japanese

#### Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003238534	A	20030827	JP 2002-45705	20020222

Patent Number (1)  
JP 2003238534

Kind Code (1)  
A

Patent Publication Date (1)  
20030827

Application Number (1)  
JP 2002-45705

Application Date (1)  
20020222

Priority Patent Number (1)  
JP 2002-45705

Priority Patent Publication Date (1)  
20020222

#### Abstract

The anthracene compds. are represented by a general formula of I [R1-R4, R6-R9 = H, halo, OH, NO<sub>2</sub>, CN, amino, C1-30 alkyl, C4-40 alkenyl, CO<sub>2</sub>H, etc.; R5 = divalent or trivalent C5-40 aromatic, divalent or trivalent C2-40 aromatic heterocyclic; R1-R9 may be bonded to neighboring group and form ring; A, B = C6-40 aryl, aromatic C2-40 heterocyclic; when R5 = C10-40 aromatic or aromatic C5-40 heterocyclic, A may be H; Ar1, Ar2 = C6-40 aryl, aromatic C2-40 heterocyclic, may be bonded to each other via linkage group L; L = (CR10R11)m, (SiR10R11)m, NR12m, vinylene, C6-40 arylene; R10-R12 = H, halo, C1-40 alkyl, C5-40 cycloalkyl, C5-40 aromatic hydrocarbyl, aromatic C2-40 heterocyclic, C7-40 aralkyl; m = 1, 2, 3; n = 0, 1]. The organic EL device contains, between anodes and cathodes,  $\geq 1$  organic thin-film layers involving a luminescent layer and containing I in  $\geq 1$  of the layers. Preferably, the organic thin-film layers consist of a luminescent layer, an electron-transporting layer, and a hole-transporting layer and at least the luminescent layer contains I. Preferably, the luminescent layer further contains arylamine compds. which may be selected from those represented by a general formula of Ar<sub>5</sub>(NAr<sub>6</sub>Ar<sub>7</sub>)<sub>p</sub> (Ar<sub>5</sub> = C6-40 aromatic; Ar<sub>6</sub>, Ar<sub>7</sub> = H, C6-40 aromatic; p = 1-6 integer) or Ar<sub>8</sub>(NAr<sub>9</sub>)<sub>q</sub>Ar<sub>10</sub>rNAr<sub>11</sub>Ar<sub>12</sub>s(NAr<sub>13</sub>)<sub>t</sub>Ar<sub>14</sub> (Ar<sub>8</sub>, Ar<sub>14</sub> = C6-40 aromatic; Ar<sub>9</sub>-Ar<sub>13</sub> = H, C6-40 aromatic; q, r, s, t = 0, 1). The electron-transporting layer may contain inorg. compds., preferably selected from dielecs., semiconductors, or fine-crystalline or amorphous dielec. thin films. The dielecs. may comprise  $\geq 1$  compds. selected from alkali metal chalcogenides, alkaline earth metal chalcogenides, alkali metal halides, and alkaline earth metal halides. The semiconductors may comprise  $\geq 1$  oxides, nitrides, or oxynitrides of  $\geq 1$  elements selected from Ba, Ca, Sr, Yb, Al, Ga, In, Li, Na, Cd, Mg, Si, Ta, Sb, and Zn. The electron-transporting layer may contain reducing dopants, preferably,  $\geq 1$  alkali metals selected from Na, K, Rb, and Cs and/or  $\geq 1$  alkaline earth metals

selected from Ca, r, and/or Ba. In another alternative, the organic thin-film layers consist of an electron-transporting layer, and a hole-transporting layer and at least one of these layers contain I.

L6 ANSWER 6 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent device comprising coupled anthracene fluorene derivative and with amino-substituted hydrocarbon

Author/Inventor

Totani, Yoshiyuki; Ishida, Tsutomu; Shimamura, Takehiko; Tanabe, Yoshimitsu; Nakatsuka, Masakatsu

Patent Assignee/Corporate Source

Mitsui Chemicals Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 122 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003229273	A	20030815	JP 2002-25736	20020201

Patent Number (1)

JP 2003229273

Kind Code (1)

A

Patent Publication Date (1)

20030815

Application Number (1)

JP 2002-25736

Application Date (1)

20020201

Priority Patent Number (1)

JP 2002-25736

Priority Patent Publication Date (1)

20020201

Abstract

The invention refers to an organic electroluminescent device comprising one or two fluorene rings directed bonded to an anthracene and a amino-substituted hydrocarbon.

L6 ANSWER 7 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent devices of high brightness and luminescent efficiency and anthracene derivatives therefor

Author/Inventor

Ishida, Tsutomu; Shimamura, Takehiko; Tanabe, Yoshimitsu; Totani, Yoshiyuki; Nakatsuka, Masakatsu

Patent Assignee/Corporate Source

Mitsui Chemicals Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 99 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003128651	A	20030508	JP 2001-317783	20011016

Patent Number (1)

JP 2003128651

Kind Code (1)

A

Patent Publication Date (1)

20030508

Application Number (1)

JP 2001-317783

Application Date (1)

20011016

Priority Patent Number (1)

JP 2001-317783

Priority Patent Publication Date (1)

20011016

Abstract

The anthracene derivs. have direct bonds between anthracene ring and fluorene ring and bear group I (Ar1, Ar2 = arylene; Z = bridging group).

## L6 ANSWER 8 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

## Title

Organic electroluminescent device using pyrazole or pyrazoline

## Author/Inventor

Suzuki, Koichi; Ueno, Kazunori; Senoo, Akihiro

## Patent Assignee/Corporate Source

Canon Inc., Japan

## Source

Jpn. Kokai Tokkyo Koho, 25 pp. CODEN: JKXXAF

## Document Type

Patent

## Language

Japanese

## Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003109765	A	20030411	JP 2001-300548	20010928

## Patent Number (1)

JP 2003109765

## Kind Code (1)

A

## Patent Publication Date (1)

20030411

## Application Number (1)

JP 2001-300548

## Application Date (1)

20010928

## Priority Patent Number (1)

JP 2001-300548

## Priority Patent Publication Date (1)

20010928

## Abstract

The invention refers to an organic electroluminescent device comprising pyrazole or pyrazoline I [R1 = H, alkyl, (un)substituted aralkyl, aryl, heterocyclic, condensed polycyclic aromatic or heterocyclic; Ar1-3 = (un)substituted aryl, heterocyclic, condensed polycyclic aromatic or heterocyclic; at least two of R1, Ar1-3 are (un)substituted condensed polycyclic aromatic or heterocyclic groups].

## L6 ANSWER 9 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

## Title

Organic electroluminescent devices

## Author/Inventor

Suzuki, Koichi

## Patent Assignee/Corporate Source

Canon Inc., Japan

## Source

Jpn. Kokai Tokkyo Koho, 26 pp. CODEN: JKXXAF

## Document Type

Patent

## Language

Japanese

## Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003109763	A	20030411	JP 2001-300546	20010928

## Patent Number (1)

JP 2003109763

## Kind Code (1)

A

## Patent Publication Date (1)

20030411

## Application Number (1)

JP 2001-300546

## Application Date (1)

20010928

## Priority Patent Number (1)

JP 2001-300546

## Priority Patent Publication Date (1)

20010928

## Abstract

The devices comprise a phosphor layer comprising R1-4Ar1, where R1-4 = H, alkyl, (substituted) aralkyl, (substituted) aryl, (substituted) heterocyclic, (substituted) condensed polyarom. ring, (substituted) polyheterocyclic ring; Ar1 = divalency-tetravalency

naphthylene, fluorenylene, anthracenylenes, phenanthrenylene, vinylene, triphenylene, thiophenylene, pyridylene, pyradylene, pyrimidylene, pyradylene, pyrimydilene, pyradadilene.

L6 ANSWER 10 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent device and blue luminescence component

Author/Inventor

Sato, Hideki; Sato, Yoshiharu; Ichinosawa, Akiko

Patent Assignee/Corporate Source

Mitsubishi Chemical Corp., Japan

Source

Jpn. Kokai Tokkyo Koho, 23 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003031371	A	20030131	JP 2001-216944	20010717

Patent Number (1)

JP 2003031371

Kind Code (1)

A

Patent Publication Date (1)

20030131

Application Number (1)

JP 2001-216944

Application Date (1)

20010717

Priority Patent Number (1)

JP 2001-216944

Priority Patent Publication Date (1)

20010717

Abstract

The invention refers to an electroluminescent device comprising I [Z = divalent substituent; and the Ph and carbazolyl groups may be substituted] as a hole blocking layer.

L6 ANSWER 11 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent device and luminescent material containing a rubrene derivative as a luminescence facilitator

Author/Inventor

Hamada, Yuji; Tsujioka, Tsuyoshi

Patent Assignee/Corporate Source

Sanyo Electric Co., Ltd., Japan

Source

PCT Int. Appl., 176 pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002100977	A1	20021219	WO 2002-JP5522	20020604

Patent Number (1)

WO 2002100977

Kind Code (1)

A1

Patent Publication Date (1)

20021219

Application Number (1)

WO 2002-JP5522

Application Date (1)

20020604

Priority Patent Number (1)

JP 2001-171664

Priority Kind Code (1)

A

Priority Patent Publication Date (1)

20010606

Abstract

An organic electroluminescence device having a high luminance and a high emission efficiency. The invention refers to an organic electroluminescent device comprising a luminescent layer with a host material, an emitting dopant and a luminescence facilitator, wherein the facilitator is a rubrene derivative

L6 ANSWER 12 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Electroluminescence Characteristics of Card Anthracene-containing Polyimide: The Effect of the Cathode and Anode Materials

Author/Inventor

Kolesnikov, V. A.; Brusentseva, M. A.; Rumyantsev, B. M.; Berendyaev, V. I.; Vannikov, A. V.

Patent Assignee/Corporate Source

Frumkin Institute of Electrochemistry, Russian Academy of Sciences, Moscow, 119071, Russia

Source

Russian Journal of Electrochemistry (Translation of Elektrokhimiya) (2002), 38(11), 1163-1172 CODEN: RJELE3; ISSN: 1023-1935

Document Type

Journal

Language

English

Abstract

The effect of electrode materials on the characteristics of electroluminescence devices of the type transparent conductive substrate/polyimide/metallic electrode is studied. ITO. The reasons for variations in the electroluminescence spectra after replacing the substrate material and the metal of the top electrode are discussed. The applicability of the Fauler-Nordheim model for describing the injection of charge carriers in the electroluminescence devices under study is analyzed.

L6 ANSWER 13 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Double-spiro organic compounds and electroluminescent devices

Author/Inventor

Kim, Kong-Kyeum; Son, Se-Hwan; Yoon, Seok-Hee; Bae, Jae-Soon; Lee, Youn-Gu; Im, Sung-Gap; Kim, Ji-Eun; Lee, Jae-Chol

Patent Assignee/Corporate Source

LG Chem, Ltd., S. Korea

Source

PCT Int. Appl., 117 pp. CODEN: PIXXD2

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002088274	A1	20021107	WO 2002-KR458	20020318

Patent Number (1)

WO 2002088274

Kind Code (1)

A1

Patent Publication Date (1)

20021107

Application Number (1)

WO 2002-KR458

Application Date (1)

20020318

Priority Patent Number (1)

KR 2001-23038

Priority Kind Code (1)

A

Priority Patent Publication Date (1)

20010427

Abstract

Double-spiro organic compds. are claimed which are described by the general formula I (R1-24 = independently selected substituents not all of which are H). Light-emitting, hole-transporting, and electron-transporting materials comprising the compds. are also described. Electroluminescent materials comprising the compds, including deposited films, methods for depositing the materials, and organic electroluminescent devices employing the materials, and method for fabricating the devices, are also described.

L6 ANSWER 14 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Near-infrared electroluminescence in polymer composites based on organic nanocrystals

Author/Inventor

Maltsev, Eugene I.; Lypenko, Dmitry A.; Bobinkin, Vladimir V.; Tameev, Alek R.; Kirillov, Sergey V.; Shapiro, Boris I.; Schoo, Herman F. M.; Vannikov, Anatoly V.

Patent Assignee/Corporate Source

Frumkin Institute of Electrochemistry of the Russian Academy of Sciences, Moscow, 117071, Russia

**Source**  
 Applied Physics Letters (2002), 81(16), 3088-3090 CODEN: APPLAB; ISSN: 0003-6951  
**Document Type**  
 Journal  
**Language**  
 English  
**Abstract**  
 IR electroluminescence was revealed in single-layer light-emitting diodes based on a type of electroactive polymer nanocomposites-electron-hole conducting aromatic polyimide and organic nanocryst. particles of cyanine mols., known as J-aggregates. These materials exhibit a very narrow emission band with a maximum at 815 nm. Dramatic increase of charge-carrier mobility was observed for these layers containing the J-aggregate nanocryst. phase.

L6 ANSWER 15 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

**Title**  
Electroluminescent (EL) devices  
**Author/Inventor**

Hu, Nan-Xing; Aziz, Hany; Jain, Poonam; Popovic, Zoran D.

**Patent Assignee/Corporate Source**  
 Xerox Corporation, USA

**Source**  
 U.S. Pat. Appl. Publ., 46 pp. CODEN: USXXCO

**Document Type**  
 Patent

**Language**  
 English

**Patent Information**

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002132134	A1	20020919	US 2001-771311	20010126

**Patent Number (1)**  
 US 2002132134

**Kind Code (1)**  
 A1

**Patent Publication Date (1)**  
 20020919

**Application Number (1)**  
 US 2001-771311

**Application Date (1)**  
 20010126

**Priority Patent Number (1)**  
 US 2001-771311

**Priority Kind Code (1)**  
 A3

**Priority Patent Publication Date (1)**  
 20010126

**Abstract**

Electroluminescent devices are described which employ compds. are described by the general formula I and II (R1 and R2 = H, alkyl, alicyclic alkyl, alkoxy, halo, and cyano groups, and, in II, aryl groups; Ar1 and Ar2 = independently selected aromatic component or an aryl group comprised of 4-15 conjugate-bonded or fused benzene rings; R3, R4, R5, and R6 = independently selected H, an alkyl, alicyclic alkyl, aryl, and alkoxy group; wherein R3 and R4, or R4 and R5 are optionally combined into a bivalent hydrocarbon group selected from the group consisting of an alkylene, an alkylidene, an alicyclic alkylidene, and an arylalkylidene; Ar3 and Ar4 = independently selected aryl groups; and Ar = a tetravalent aromatic group). The compds. and their mixts. are also described.

L6 ANSWER 16 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

**Title**  
 Spiro compound for organic electroluminescent material and component

**Author/Inventor**  
 Enokida, Toshio; Toba, Yasumasa

**Patent Assignee/Corporate Source**  
 Toyo Ink Mfg. Co., Ltd., Japan

**Source**  
 Jpn. Kokai Tokkyo Koho, 48 pp. CODEN: JKXXAF

**Document Type**  
 Patent

**Language**  
 Japanese

**Patent Information**

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002265938	A	20020918	JP 2001-72095	20010314

**Patent Number (1)**

JP 2002265938

Kind Code (1)

A

Patent Publication Date (1)

20020918

Application Number (1)

JP 2001-72095

Application Date (1)

20010314

Priority Patent Number (1)

JP 2001-72095

Priority Patent Publication Date (1)

20010314

Abstract

The invention refers to an electroluminescent component comprising the spiro compound I [R1-16, X1,2 = H, halo, cyano, nitro, (un)substituted alkyl, alkoxy, aryloxy alkylthio, arylthio, siloxy, cycloalkyl, aryl, aromatic heterocycle, amino, styryl and adjacent groups or their substituents may join to form rings] as a luminescent material.

L6 ANSWER 17 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Metal coordination compound, luminescence device and display apparatus

Author/Inventor

Takiguchi, Takao; Okada, Shinjiro; Tsuboyama, Akira; Miura, Seishi; Moriyama, Takashi; Kamatani, Jun; Furugori, Manabu

Patent Assignee/Corporate Source

Canon Kabushiki Kaisha, Japan

Source

Eur. Pat. Appl., 113 pp. CODEN: EPXXDW

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1238981	A2	20020911	EP 2002-5112	20020307

Patent Number (1)

EP 1238981

Kind Code (1)

A2

Patent Publication Date (1)

20020911

Application Number (1)

EP 2002-5112

Application Date (1)

20020307

Priority Patent Number (1)

JP 2001-64254

Priority Kind Code (1)

A

Priority Patent Publication Date (1)

20010308

Abstract

An electroluminescence device having a layer containing a specific metal coordination compound is provided. The metal coordination compound is represented by  $MLmL'n$  ( $M = Ir, Pt, Rh$  or  $Pd$ ;  $L$  and  $L'$  = mutually different bidentate ligands;  $m = 1-3$ ;  $n = 0-2$ ;  $m+n = 2$  or  $3$ ; a partial structure  $MLm$  is represented by I ; a partial structure  $ML'n$  is represented by II ( $CyN1$  and  $CyN2$  = cyclic group capable of having a substituent, including a nitrogen and bonded to the metal atom  $M$  via the nitrogen atom;  $CyC1$  and  $CyC2$  = cyclic group capable of having a substituent selected from a halogen atom, cyano group, nitro, trialkylsilyl, etc.; the cyclic groups  $CyC1$  and  $CyC2$  include an aromatic group capable of having a substituent represented by IV(  $Y = CO, C=C(CN)2, O, S, CR'$ ;  $R' = H, C1-8 alkyl, etc.$ ), and III (E, G = C1-20 alkyl of which the H can be optionally replaced with a F, or an aromatic group capable of having a substituent)) . The metal coordination compound having the aromatic group is effective in providing high-efficiency luminescence and long-term high luminance.

L6 ANSWER 18 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Blue-Emitting Anthracenes with End-Capping Diarylamines

Author/Inventor

Danel, Krzysztof; Huang, Tai-Hsiang; Lin, Jiann T.; Tao, Yu-Tai; Chuen, Chang-Hao

Patent Assignee/Corporate Source

Institute of Chemistry, Academia Sinica, Taipei, WA, 115, USA

Source

Chemistry of Materials (2002 ), 14(9), 3860-3865 CODEN: CMATEX; ISSN: 0897-4756

Document Type

**Journal**  
**Language** English  
**Abstract**  
 2-Tert-butyl-9,10-bis(bromoaryl)anthracenes were synthesized from 2-tert-butyl-9,10-anthraquinone. Pd-catalyzed C-N bond formation between these bromo compds. and diarylamines provides stable 2-tert-butyl-9,10-diarylanthracenes containing two peripheral diarylamines (anth). They possess high thermal decomposition temperature ( $T_d > 450^\circ$ ) and form a stable glass ( $T_g > 130^\circ$ ). also, they are fluorescent in the blue region with moderate to good quantum efficiencies. Two types of light-emitting diodes (LED) were constructed from anth, (I) ITO/anth/TPBI/Mg:Ag and (II) ITO/anth/Alq3/Mg:Ag, where TPBI and Alq3 are 1,3,5-tris(N-phenylbenzimidazol-2-yl)benzene and tris(8-hydroxyquinolinato)aluminum, resp. In type I devices, the anth function as the hole-transporting and emitting material. In type II devices, emission from Alq3 is observed. Several blue-light-emitting type I devices exhibit good maximum brightness and phys. performance. The relation between the energy levels of the anth and the performance of the light-emitting diode is discussed.

L6 ANSWER 19 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

**Title** Organic polymeric light-emitting devices  
**Author/Inventor** Vannikov, A. V.  
**Patent Assignee/Corporate Source** Inst. Elektrokhim. im. A. N. Frumkina, RAN, Moscow, 117071, Russia  
**Source** Rossiiskii Khimicheskii Zhurnal (2001), 45(5-6), 41-50 CODEN: RKZHEZ; ISSN: 1024-6215  
**Document Type** Journal  
**Language** Russian  
**Abstract**  
 The author developed new materials for polymeric light-emitting devices. The preparation methods can be used in other optoelectronics. The electronic transport in polymer layers is discussed.

L6 ANSWER 20 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

**Title** The organic electroluminescent material and organic electroluminescent component  
**Author/Inventor** Suda, Yasumasa; Onikubo, Shunichi  
**Patent Assignee/Corporate Source** Toyo Ink Mfg. Co., Ltd., Japan  
**Source** Jpn. Kokai Tokkyo Koho, 33 pp. CODEN: JKXXAF  
**Document Type** Patent  
**Language** Japanese  
**Patent Information**

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002060742	A	20020226	JP 2000-243895	20000811

**Patent Number (1)**  
JP 2002060742

**Kind Code (1)**  
A

**Patent Publication Date (1)**  
20020226

**Application Number (1)**  
JP 2000-243895

**Application Date (1)**  
20000811

**Priority Patent Number (1)**  
JP 2000-243895

**Priority Patent Publication Date (1)**  
20000811

**Abstract**  
The invention refers to an organic electroluminescent material comprising R<sub>1</sub>R<sub>2</sub>C:CR<sub>3</sub>R<sub>4</sub>-R<sub>5</sub> [R<sub>1</sub>-3 = aryl, heterocyclic; R<sub>4</sub> = divalent condensed polycyclic hydrocarbon or divalent heterocyclic R<sub>5</sub> = H, unsubstituted aryl, heterocyclic, or a combination thereof].

L6 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

**Title** Hydrocarbon compound for organic electroluminescent elements and using them  
**Author/Inventor**

Ishida, Tsutomu; Shimamura, Takehiko; Totani, Yoshiyuki; Nakatsuka, Masakatsu  
Patent Assignee/Corporate Source  
Mitsui Chemicals, Inc., Japan

Source PCT Int. Appl., 251 pp. CODEN: PIXXD2

Document Type Patent

Language Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002014244	A1	20020221	WO 2001-JP6920	20010810

Patent Number (1)  
WO 2002014244

Kind Code (1)  
A1

Patent Publication Date (1)  
20020221

Application Number (1)  
WO 2001-JP6920

Application Date (1)  
20010810

Priority Patent Number (1)  
JP 2000-242476

Priority Kind Code (1)  
A

Priority Patent Publication Date (1)  
20000810

Abstract

Title electroluminescent elements comprise one pair of electrodes and pinched between the electrodes,  $\geq 1$  layer(s) containing  $\geq 1$  novel hydrocarbon compound in a general formula  $X_1(F_1)(A_1)^k(F_2)(A_2)^m(F_3)^nX_2$  [ $A_{1-2}$  = (un)substituted anthracenediy;  $F_{1-3}$  = (un)substituted fluorenediy;  $X_{1-2}$  = H, halo, straight, branched or cyclic alkyl, alkoxy, amino, aryl, or (un)substituted amino, aryl or aralkyl, j,m,n = 0, 1; k,l = 1, 2] having an anthracene ring and a fluorene ring which are directly bonded with each other. The compound can be suitably used for preparing an organic electroluminescent element being excellent in luminous efficiency and having a long luminous life.

L6 ANSWER 22 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title New heterocyclic compound for electroluminescent device

Author/Inventor Okada, Hisashi; Ise, Toshihiro

Patent Assignee/Corporate Source Fuji Photo Film Co., Ltd., Japan

Source Jpn. Kokai Tokkyo Koho, 52 pp. CODEN: JKXXAF

Document Type Patent

Language Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001335776	A	20011204	JP 2000-218967	20000719

Patent Number (1)  
JP 2001335776

Kind Code (1)  
A

Patent Publication Date (1)  
20011204

Application Number (1)  
JP 2000-218967

Application Date (1)  
20000719

Priority Patent Number (1)  
JP 1999-207957

Priority Kind Code (1)  
A

Priority Patent Publication Date (1)  
19990722

Abstract

The invention relates to new heterocyclic compds., suited for use in making an electroluminescent device, represented by L-(A)m [A

= heterocyclic group having  $\geq 2$  aromatic hetero ring condensed; m = integer  $\geq 2$ ; L = bonding group].

L6 ANSWER 23 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent device

Author/Inventor

Kitazawa, Daisuke; Tominaga, Takeshi; Kohama, Toru

Patent Assignee/Corporate Source

Toray Industries, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 20 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001223082	A	20010817	JP 2000-30373	20000208

Patent Number (1)

JP 2001223082

Kind Code (1)

A

Patent Publication Date (1)

20010817

Application Number (1)

JP 2000-30373

Application Date (1)

20000208

Priority Patent Number (1)

JP 2000-30373

Priority Patent Publication Date (1)

20000208

Abstract

The invention relates to an organic electroluminescent device comprising the compound represented by I [R1-R14 = H, alkyl, cycloalkyl, etc.; at least one of R3 and R4 have steric hindrance to limit the free internal rotation] and a 580-720 nm emitting fluorescent material having a pyrromethane skeleton.

L6 ANSWER 24 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Charge carrier transport in aromatic polyimides and polyimide/J-aggregate composites

Author/Inventor

Tameev, Alek R.; Kozlov, Aleksey A.; Mal'tsev, Eugene I.; Lypenko, Dmitry A.; Bobonkin, Vladimir V.; Vannikov, Anatoly V.

Patent Assignee/Corporate Source

Frumkin Institute of Electrochemistry of the Russian Academy of Sciences, Moscow, 117071, Russia

Source

Proceedings of SPIE-The International Society for Optical Engineering (2001), 4105(Organic Light-Emitting Materials and Devices IV), 443-449 CODEN: PSISDG; ISSN: 0277-786X

Document Type

Journal

Language

English

Abstract

Charge carrier transport in aromatic polyimides based on 9,10- bis(aminophenyl)anthracene or 9,10-bis(phenylthio)anthracene and their composites with dye J-aggregates was studied using conventional time-of-flight techniques. The elec. field and temperature dependencies of both hole and electron drift mobility were observed. In amorphous films of the soluble polyimide, the drift mobility was found to reach the value of  $10\text{-}4 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$ . In films of the insol. polyimide containing a crystalline phase, the mobility was lower by one or two orders of magnitude. The result is attributed to the presence of cavities in the crystalline film. The applicability of known theor. models describing the temperature and elec. field dependencies of mobility is discussed. J-aggregates, formed in the soluble polyimides doped with cyanine dye mols., play an active role in charge carrier transport in the electroluminescence composites.

L6 ANSWER 25 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Electroluminescence component

Author/Inventor

Tanaka, Hiromitsu; Mouri, Makoto; Takeuchi, Hisato; Tokito, Seishi

Patent Assignee/Corporate Source

Toyota Central Research and Development Laboratories, Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 32 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001110572	A	20010420	JP 2000-237442	20000804

Patent Number (1)

JP 2001110572

Kind Code (1)

A

Patent Publication Date (1)

20010420

Application Number (1)

JP 2000-237442

Application Date (1)

20000804

Priority Patent Number (1)

JP 1999-221653

Priority Kind Code (1)

A

Priority Patent Publication Date (1)

19990804

Abstract

The invention refers to an electroluminescent device comprising two electrodes and an electroluminescent layer containing I [A1,2 = functional group; B1-6 = direct bonds or divalent functional groups; A1,2 = triphenylamine, coumarin, or oxadiazole derivative groups having hole and electron transport and luminescent properties].

L6 ANSWER 26 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescence and organic luminous medium

Author/Inventor

Hosokawa, Chishio; Higashi, Hisahiro; Fukuoka, Kenichi; Ikeda, Hidetsugu

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

PCT Int. Appl., 41 pp. CODEN: PIXXD2

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001021729	A1	20010329	WO 2000-JP6402	20000920

Patent Number (1)

WO 2001021729

Kind Code (1)

A1

Patent Publication Date (1)

20010329

Application Number (1)

WO 2000-JP6402

Application Date (1)

20000920

Priority Patent Number (1)

JP 1999-267460

Priority Kind Code (1)

A

Priority Patent Publication Date (1)

19990921

Abstract

The invention refers to a organic electroluminescent device comprising a mono-, di- or tri- styryl amine, and at least one of the anthracene derivs., A1LA1 [A1,2 = (un)substituted mono Ph anthryl, or (un)substituted di-Ph anthryl; L = single bond or divalent chain] and A3AnA4 [An = (un)substituted anthracene; A3,4 = (un)substituted condensed aromatic ring, or (un)substituted C12+ chain uncondensed aryl ring].

L6 ANSWER 27 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent devices

Author/Inventor

Sato, Tadahisa; Hara, Shintaro  
Patent Assignee/Corporate Source

Fuji Photo Film Co., Ltd., Japan; Matsushita Electric Industrial Co., Ltd.

Source Jpn. Kokai Tokkyo Koho, 24 pp. CODEN: JKXXAF

Document Type Patent

Language Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000323281	A	20001124	JP 1999-135920	19990517

Patent Number (1)  
JP 2000323281

Kind Code (1)  
A

Patent Publication Date (1)  
20001124

Application Number (1)  
JP 1999-135920

Application Date (1)  
19990517

Priority Patent Number (1)  
JP 1999-135920

Priority Patent Publication Date (1)  
19990517

Abstract

The devices comprise a hole transport layer comprising I, II, III, IV or V (A1-9, B1-9, C1-9 = (substituted) ethylene, (substituted) vinylene, (substituted) o-arylene; Ar1-5 = (substituted) aromatic hydrocarbon, (substituted) aromatic heterocyclic hydrocarbon; a, b, c = 1-4; d = 0 - 2; Ar6-8 = Ar1-5 when Y = N; Ar6-8 = (substituted) benzene ring when Y = 1,3,5-benzenetolyl; e, f, g = 1-3; Ar9 = Ar1-5 except benzene ring, (substituted) polyaryl methane; h = 1-4; Ar10,11 = Ar1-5; i, k = 1-4; j ≥ 1; Z = 1-4 valent group of aromatic ring, aromatic heterocyclic, triarylamine, polyarylethane; m = 1-4; l ≥ 1; n = 1-4).

L6 ANSWER 28 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title Electroluminescent properties of anthracene-containing polyimides

Author/Inventor Mal'tsev, Eugene I.; Brusentseva, Maria A.; Lypenko, Dmitry A.; Berendyaev, Vladimir I.; Kolesnikov, Vladislav A.; Kotov, Boris V.; Vannikov, Anatoly V.

Patent Assignee/Corporate Source Frumkin Institute of Electrochemistry of the Russian Academy of Sciences, Moscow, 117071, Russia

Source Polymers for Advanced Technologies (2000), 11(7), 325-329 CODEN: PADTE5; ISSN: 1042-7147

Document Type Journal

Language English

Abstract

Optical and electroluminescent properties of a new soluble anthracene-containing polyimide (ACPI) was studied. Solubility of ACPI in organic solvents allows direct spin casting of the polymer films exhibiting intense photo- and electroluminescence (EL) in the visible range. This nonconjugated polymer was used as emitting and electron-hole transporting layers in polymer light-emitting devices (LEDs). EL properties of the uni- and bilayer LEDs are discussed in terms of the band structure, bipolar transport and electron donor-acceptor interactions.

L6 ANSWER 29 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title Aromatic hydrocarbon compound for organic electroluminescent device

Author/Inventor Funabashi, Masakazu; Kawamura, Hisayuki; Azuma, Hisahiro; Hosokawa, Chishio  
Patent Assignee/Corporate Source Idemitsu Kosan Co., Ltd., Japan

Source Jpn. Kokai Tokkyo Koho, 18 pp. CODEN: JKXXAF

Document Type Patent

Language Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000192028	A	20000711	JP 1998-370480	19981225

Patent Number (1)  
     JP 2000192028  
 Kind Code (1)  
     A  
 Patent Publication Date (1)  
     20000711  
 Application Number (1)  
     JP 1998-370480  
 Application Date (1)  
     19981225  
 Priority Patent Number (1)  
     JP 1998-370480  
 Priority Patent Publication Date (1)  
     19981225

**Abstract**

An aromatic hydrocarbon compound for an organic electroluminescent device is represented by I [Ar1 and Ar2 = arylene and heterocyclic groups; Ar3 and Ar4 = aryl and heterocyclic groups; R represents a group combined with either Ar2 or Ar3 to form a ring; n = 0-2 integer; and m = 0 or 1].

L6 ANSWER 30 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

**Title** Electroluminescent properties of anthracene-containing polyimides

**Author/Inventor** Mal'tsev, Eugene I.; Brusentseva, Mariy A.; Berendyaev, Vladimir I.; Kolesnikov, Vladislav A.; Kotov, Boris V.; Vannikov, Anatoly V.

**Patent Assignee/Corporate Source** Frumkin Institute of Electrochemistry, Russian Academy of Sciences, Moscow, Russia

**Source** Proceedings of SPIE-The International Society for Optical Engineering (1999 ), 3797(Organic Light-Emitting Materials and Devices III), 350-358 CODEN: PSISDG; ISSN: 0277-786X

**Document Type** Journal

**Language** English

**Abstract**

The electroluminescence (EL) of donor-acceptor polyimides prepared from 9,10-bis(m-aminophenylthio)-anthracene (BPTA) and 1,3-bis(3,4-dicarboxyphenoxy)benzene or 2,2-bis[4-(3,4- dicarboxyphenoxy)phenyl]-propane dianhydrides was studied. The aromatic polyimides with and without sulfur atoms in the backbone, were evaluated as electron-hole transporting and light-emitting materials for use in single- and multilayer electroluminescent diodes. These polyimides are efficient electron and hole conductors and also exhibit intense photoluminescence of exciplex origin. Some of the polyimides have been used as hole conducting layers with tris(8-quinolinolato)aluminum complex (Alq<sub>3</sub>) as electron conducting layer in bilayer LEDs of high brightness. A direct correlation was revealed between transport characteristics and electroluminescent properties of these electroactive materials. At room temperature, the electron mobility and hole drift mobility directly measured by conventional TOF techniques indicate effective bipolar transport. The simplicity of synthesis, high thermal stability, organic solvent solubility, and excellent film-forming ability make these polyimides good candidates for technol. applications. The band structure, bipolar transport, and electron donor-acceptor interactions in test one-layer and bilayer LEDs based on the polyimides are described.

L6 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

**Title** Organic electroluminescent devices

**Author/Inventor** Hosokawa, Chishio; Funehashi, Masakazu; Kawamura, Hisayuki; Arai, Hiromasa; Koga, Hidetoshi; Ikeda, Hidetsugu

**Patent Assignee/Corporate Source** Idemitsu Kosan Co., Ltd., Japan

**Source** PCT Int. Appl., 167 pp. CODEN: PIXXD2

**Document Type** Patent

**Language** Japanese

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000039247	A1	20000706	WO 1999-JP7390	19991228

Patent Number (1)  
     WO 2000039247  
 Kind Code (1)  
     A1  
 Patent Publication Date (1)  
     20000706  
 Application Number (1)  
     WO 1999-JP7390

Application Date (1)

19991228

Priority Patent Number (1)

JP 1998-373921

Priority Kind Code (1)

A

Priority Patent Publication Date (1)

19981228

Abstract

The devices having a high luminescent efficiency, a long life and a high heat resistance comprise I ( A = (substituted) C22-60 arylene; X1-4 = (substituted) C6-30 arylene; Y1-4 = II; a-d = 0-2; R1-4 = H, (substituted) alkyl, (substituted) aryl, cyano; R3 may be bonded to R4 to form a triple bond; Z = (substituted) aryl; n = 0, 1).

L6 ANSWER 32 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Aromatic hydrocarbon compound for organic electroluminescent device

Author/Inventor

Azuma, Hisahiro; Hosokawa, Chishio; Kusumoto, Tadashi

Patent Assignee/Corporate Source

Idemitsu Kosan Co., Ltd., Japan

Source

Jpn. Kokai Tokkyo Koho, 17 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000053676	A	20000222	JP 1998-225679	19980810

Patent Number (1)

JP 2000053676

Kind Code (1)

A

Patent Publication Date (1)

20000222

Application Number (1)

JP 1998-225679

Application Date (1)

19980810

Priority Patent Number (1)

JP 1998-225679

Priority Patent Publication Date (1)

19980810

Abstract

The aromatic hydrocarbon compound for organic electroluminescent device has structure (R1)(R2)C=CH-Ar1-An-Ar2-CH=C(R3)(R4) ( An = C1-30 alkyl, alkoxy, C6-18 aryloxy, amino, etc.; Ar1-2 = divalent heterocyclic ring with C5-30 and S, polyarylene; R1-4 = H, C1-30 alkyl, alkoxy, C6-30 aryl, etc.). The aromatic hydrocarbon compound provides the organic electroluminescent device of the high electroluminescent efficiency, the decreased driving voltage, and the excellent heat-resistance.

L6 ANSWER 33 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent material containing anthracene derivative and organic electroluminescent device with it

Author/Inventor

Tamano, Michiko; Maki, Shinichiro; Onikubo, Shunichi; Okutsu, Satoshi; Enokida, Toshio

Patent Assignee/Corporate Source

Toyo Ink Mfg. Co., Ltd., Japan

Source

Jpn. Kokai Tokkyo Koho, 22 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11111458	A	19990423	JP 1997-264468	19970929

Patent Number (1)

JP 11111458

Kind Code (1)

A

Patent Publication Date (1)

19990423

Application Number (1)

JP 1997-264468

Application Date (1)

19970929

Priority Patent Number (1)

JP 1997-264468

Priority Patent Publication Date (1)

19970929

Abstract

The material comprises an anthracene derivative having a formula I (A<sub>1</sub>, 2 = alkyl, alkoxy, aryloxy, condensed polycyclic, alkylamino, arylamino; R<sub>1-16</sub> = H, halogen, cyano, NO<sub>2</sub>, alkyl, alkoxy, aryloxy, alkylthio, arylthio, cyclic group, NH<sub>2</sub>; R<sub>1-16</sub> may bond to form a ring). The device has a light-emitting layer-containing plural organic compound thin films sandwiched between a pair of electrodes, at least one of the films contains the material. The device shows high luminance with efficiency and long life.

L6 ANSWER 34 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent device material containing naphthacene derivative and organic electroluminescent device with it

Author/Inventor

Okutsu, Satoshi; Tamano, Michiko; Onikubo, Shunichi; Enokida, Toshio

Patent Assignee/Corporate Source

Toyo Ink Mfg. Co., Ltd., Japan

Source

Jpn. Kokai Tokkyo Koho, 28 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10289786	A	19981027	JP 1997-95406	19970414

Patent Number (1)

JP 10289786

Kind Code (1)

A

Patent Publication Date (1)

19981027

Application Number (1)

JP 1997-95406

Application Date (1)

19970414

Priority Patent Number (1)

JP 1997-95406

Priority Patent Publication Date (1)

19970414

Abstract

The title material contains the derivative described by the general formula I (X = halo, cyano, alkyl, aryl, alkoxy, aryloxy, alkylthio, arylthio, cycloalkyl, heterocyclic, NH<sub>2</sub>; i = 1-28). Device are also described which have plural organic compound thin films, containing a light-emitting layer and a hole injection layer, sandwiched by a pair of electrodes, in which one of the layers contains the material. The devices show high luminance, efficiency, and long life.

L6 ANSWER 35 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent materials and devices using the same with high luminance and long life

Author/Inventor

Okutsu, Satoshi; Onikubo, Shunichi; Tamano, Michiko; Enokida, Toshio

Patent Assignee/Corporate Source

Toyo Ink Mfg. Co., Ltd., Japan

Source

Jpn. Kokai Tokkyo Koho, 20 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10152676	A	19980609	JP 1996-313289	19961125

Patent Number (1)

JP 10152676

Kind Code (1)  
A  
Patent Publication Date (1)  
19980609  
Application Number (1)  
JP 1996-313289  
Application Date (1)  
19961125  
Priority Patent Number (1)  
JP 1996-313289  
Priority Patent Publication Date (1)  
19961125

Abstract

Title materials are oxazole derivs. I [X1-3 = N, CH, or C bonding with Ar1 or Ar2, where X1 or X3 is C; Ar1-2 = arylene; Ar3-5 = H, cyano, (cyclo) alkyl, aryl, heterocycle; m, n = 0-4]. Electroluminescent devices including layers (preferably emitting layers) containing I are also claimed.

L6 ANSWER 36 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title Electroluminescence of anthracene-containing polyimides

Author/Inventor Mal'tsev, Evgenii I.; Brusentseva, Maria A.; Berendyaev, Vladimir I.; Kolesnikov, Vladislav A.; Lunina, Elena V.; Kotov, Boris V.; Vannikov, Anatolii V.

Patent Assignee/Corporate Source A N Frumkin Institute of Electro-Chemistry, Russian Academy of Sciences, Moscow, 117071, Russia

Source Mendeleev Communications (1998 ), (1), 31-32 CODEN: MENCEX; ISSN: 0959-9436

Document Type Journal

Language English

Abstract Electroluminescence has been revealed in a new class of electroactive polymers, the anthracene-containing aromatic polyimide derivs.; high thermal stability, ability to cast layers from solution and excellent film-forming properties make these materials of potential interest for technol. applications.

L6 ANSWER 37 OF 37 CAPLUS COPYRIGHT 2008 ACS on STN

Title Light-emitting material for organo- electroluminescence device and organo- electroluminescence device for which the light-emitting material is adapted

Author/Inventor Tamano, Michiko; Enokida, Toshio

Patent Assignee/Corporate Source Toyo Ink Manufacturing Co., Ltd., Japan

Source Eur. Pat. Appl., 31 pp. CODEN: EPXXDW

Document Type Patent

Language English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 786926	A2	19970730	EP 1997-300551	19970129

Patent Number (1)  
EP 786926

Kind Code (1)  
A2

Patent Publication Date (1)  
19970730

Application Number (1)  
EP 1997-300551

Application Date (1)  
19970129

Priority Patent Number (1)  
JP 1996-12488

Priority Kind Code (1)  
A

Priority Patent Publication Date (1)  
19960129

Abstract

Compd. for use in electroluminescent devices are described by the general formulas I and II (A-D are the same or different groups

each = (un)substituted alkyl, (un)substituted monocyclic group, or (un)substituted fused polycyclic group, or A and B and/or C and D, together with the nitrogen atom to which they are attached, form a substituted or unsubstituted heterocyclic ring; R1-20 are independently selected from H, halogen atoms, (un)substituted alkyl, (un)substituted alkoxy, (un)substituted amino, (un)substituted monocyclic, or (un)substituted fused polycyclic groups; and X1-4 are independently selected from various linking groups). Television sets, light-emitting devices, copy machines, printers, liquid-crystal displays, displays, electrophotog. photoreceptors, photoelec. converters, solar cells, and image sensors containing electroluminescent devices employing the compds. are also described.

=>

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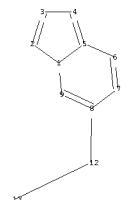
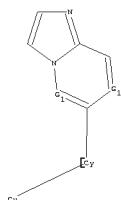
LOGINID:SSPTAMEN1774

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

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chain nodes ::

12 13

ring nodes :

1 2 3 4 5 6 7 8 9

chain bond

8-12 12-13

ring bonds

1-2 1-5 1-9 2-3 3-4 4-5 5-6 6-7 7-8 8-9

exact/norm bonds :

1-2 1-5 1-9 2-3 3-4 4-5 5-6 6-7 7-8 8-9 8-12 12-13

G1:C, N

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 12:Atom 13:Atom

L1 STRUCTURE UPLOADED

=> s l1 sss full  
FULL SEARCH INITIATED 15:10:46 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 228780 TO ITERATE

100.0% PROCESSED 228780 ITERATIONS 4458 ANSWERS  
SEARCH TIME: 00.00.03

L2 4458 SEA SSS FUL L1

=> s l2  
L3 396 L2

=> s l3 and py<=2003  
23975225 PY<=2003  
L4 235 L3 AND PY<=2003

=> s l4 and (electroluminescent or electroluminescence)  
68989 ELECTROLUMINESCENT  
6 ELECTROLUMINESCENTS  
68991 ELECTROLUMINESCENT  
(ELECTROLUMINESCENT OR ELECTROLUMINESCENTS)  
22386 ELECTROLUMINESCENCE  
25 ELECTROLUMINESCENCES  
22390 ELECTROLUMINESCENCE  
(ELECTROLUMINESCENCE OR ELECTROLUMINESCENCES)  
L5 1 L4 AND (ELECTROLUMINESCENT OR ELECTROLUMINESCENCE)

=> d l5 ibib abs

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Organic electroluminescent device

Author/Inventor

Nakatsuka, Masakatsu; Shimamura, Takehiko

Patent Assignee/Corporate Source

Mitsui Chemicals Inc., Japan

Source

Jpn. Kokai Tokkyo Koho, 43 pp. CODEN: JKXXAF

Document Type

Patent

Language

Japanese

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001035664	A	20010209	JP 1999-206147	19990721

Patent Number (1)

JP 2001035664

Kind Code (1)

A

Patent Publication Date (1)

20010209

Application Number (1)

JP 1999-206147

Application Date (1)

19990721

Priority Patent Number (1)

JP 1999-206147

Priority Patent Publication Date (1)

19990721

Abstract

The invention relates to an organic electroluminescent device comprising an azaindolizine-containing layer placed between a pair of electrodes.

=> s l4 not 15  
L6 234 L4 NOT L5

=> s LUM!N? OR ELECTROLUM!N? OR ORGANOLUM!N? OR (ELECTRO OR ORGANO OR ORG#) (2A)LUM!N? OR  
 LIGHT?(2A)(EMIT? OR EMISSION?) OR EL OR E(W)L OR L(W)E(W)D OR OLED OR DIODE# OR SEMICONDUCTOR#  
 TRANSISTOR?  
 343037 LUM!N?  
 77576 ELECTROLUM!N?  
 55 ORGANOLUM!N?  
 89987 ELECTRO  
 9 ELECTROS  
 89995 ELECTRO  
 (ELECTRO OR ELECTROS)  
 19764 ORGANO  
 3 ORGANOS  
 19767 ORGANO  
 (ORGANO OR ORGANOS)  
 1060191 ORG#  
 343037 LUM!N?  
 13165 (ELECTRO OR ORGANO OR ORG#) (2A)LUM!N?  
 1256968 LIGHT?  
 252960 EMIT?  
 584730 EMISSION?  
 89593 LIGHT?(2A)(EMIT? OR EMISSION?)  
 27002 EL  
 956 ELS  
 27927 EL  
 (EL OR ELS)  
 2090803 E  
 1625990 L  
 2064 E(W)L  
 1625990 L  
 2090803 E  
 2536233 D  
 29 L(W)E(W)D  
 5184 OLED  
 2548 OLEDS  
 6488 OLED  
 (OLED OR OLEDS)  
 118570 DIODE#  
 647637 SEMICONDUCTOR#  
 151037 TRANSISTOR?  
 1782 SEMICONDUCTOR# TRANSISTOR?  
 (SEMICONDUCTOR#(W) TRANSISTOR?)  
 L7 527912 LUM!N? OR ELECTROLUM!N? OR ORGANOLUM!N? OR (ELECTRO OR ORGANO  
 OR ORG#) (2A)LUM!N? OR LIGHT?(2A)(EMIT? OR EMISSION?) OR EL OR  
 E(W)L OR L(W)E(W)D OR OLED OR DIODE# OR SEMICONDUCTOR# TRANSISTO  
 R?

=> s 16 and 17  
 L8 7 L6 AND L7

=> d 18 1-7 ibib abs hitstr

L8 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Compositions, methods and kits pertaining to luminescent compounds

Author/Inventor

Wood, Keith; Hawkins, Erika; Scurria, Mike; Klaubert, Dieter

Patent Assignee/Corporate Source

Promega Corporation, USA

Source

PCT Int. Appl., 60 pp. CODEN: PIXXD2

Document Type

Patent

Language

English

Patent Information

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003040100	A1	20030515	WO 2002-US34972	20021101

Patent Number (1)

WO 2003040100

Kind Code (1)

A1

Patent Publication Date (1)

20030515

Application Number (1)

WO 2002-US34972

Application Date (1)

20021101

Priority Patent Number (1)

US 2001-53482

Priority Kind Code (1)

A

Priority Patent Publication Date (1)

20011102

**Abstract**

A method of measuring the enzymic activity of a luciferase includes contacting a luminogenic protein, such as a luciferase, with a protected luminophore to form a composition; and detecting light produced from the composition. The protected luminophore provides increased stability and improved signal-to-background ratios relative to the corresponding unmodified coelenterazine.

L8 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN

**Title**

Coelenterazine derivatives for improved solution solubility

**Author/Inventor**

Hawkins, Erika M.; O'Grady, Michael; Klaubert, Dieter; Scurria, Michael; Good, Troy; Stratford, Cathy; Flemming, Rod; Simpson, Dan; Wood, Keith V.

**Patent Assignee/Corporate Source**

Promega Corporation, Madison, WI, 53715, USA

**Source**

Bioluminescence & Chemiluminescence: Progress & Current Applications, [Proceedings of the Symposium on Bioluminescence and Chemiluminescence], 12th, Cambridge, United Kingdom, Apr. 5-9, 2002 (2002), 149-152. Editor(s): Stanley, Philip E.; Kricka, Larry J. World Scientific Publishing Co. Pte. Ltd.: Singapore, Singapore. CODEN: 69DPGZ; ISBN: 981-238-156-2

**Document Type**

Conference

**Language**

English

**Abstract**

Intracellular luminescent techniques requiring coelenterazine, such as bioluminescence resonance energy transfer (BRET), calcium detection, and intracellular reporter measurements, must accommodate the poor stability of this substrate in physiol. buffered solns. Coelenterazine degradation leads both to loss of luminescence over time, and increased background luminescence caused by enzyme-independent oxidation (autoluminescence). Both conditions limit luminescence sensitivity by reducing the signal-to-noise ratio. Coelenterazine can be stabilized by derivatizing the enol oxygen with an acyl oxymethyl ether. This prevents spontaneous oxidation in solution while making the substrate available intracellularly upon cleavage of the blocking group by endogenous esterases. We will describe the stability of pivaloyl oxymethyl coelenterazine-h (POM coelenterazine-h), and the effect of POM coelenterazine-h on intracellular luminescence, autoluminescence, and luminescent reaction kinetics. Also, we will present the characteristics of two other coelenterazine derivs.

L8 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN

**Title**

Preparation of luciferin derivatives of Umihotaru (*Cypridina hilgendorfii*)

**Author/Inventor**

Mitani, Motohiro; Sakaki, Hidejiro; Koinuma, Yasuyoshi; Totani, Yoshiaki

**Patent Assignee/Corporate Source**

Nippon Oils & Fats Co., Ltd., Japan; NOF Corporation

**Source**

Jpn. Kokai Tokkyo Koho, 8 pp. CODEN: JKXXAF

**Document Type**

Patent

**Language**

Japanese

**Patent Information**

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08059686	A	19960305	JP 1994-198770	19940823

Patent Number (1)

JP 08059686

Kind Code (1)

A

Patent Publication Date (1)

19960305

Application Number (1)

JP 1994-198770

Application Date (1)

19940823

Priority Patent Number (1)

JP 1994-198770

Priority Patent Publication Date (1)

19940823

Abstract

The title compds. (I; R<sub>1</sub>, R<sub>2</sub> = H, C<sub>1</sub>-20 alkyl, C<sub>6</sub>-20 aryl, C<sub>7</sub>-19 arylalkyl; R<sub>3</sub> = C<sub>1</sub>-5 alkyl or alkoxy; n = 0-5), which are useful as substrates for luminescent determination of sugar hydrolases such as  $\alpha$ -D-galactosidase, are prepared by reacting imidazopyrazinone derivs. (II; R<sub>1</sub> - R<sub>3</sub>, n = same as above) with sugar derivs. (III; X = halo; R<sub>4</sub> = C<sub>1</sub>-7 acyl) in the presence of silver triflate and Na<sub>2</sub>HPO<sub>4</sub>. followed by solvolysis in the presence of an alkali. Thus, 0.1 g 6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazin-3-one and 1.1 g Na<sub>2</sub>HPO<sub>4</sub> were treated with 5 mL MeCN, 9 mL benzene, and 2.6 g mol. sieve 4A and stirred at room temperature for 1 h, treated with 0.18 g 2,3,4,6-tetra-O-acetyl- $\alpha$ -D- galactopyranosyl bromide and 0.37 g silver triflate, and stirred at room temperature for 2 h to give 39% 6-(4-methoxyphenyl)-2-methyl-3-(2,3,4,6-tetra-O- acetyl- $\alpha$ -D- galactopyranosyloxy)imidazo[1,2-a]pyrazine, which (0.5 g) was treated with 3.5 mL MeOH and 1.8 mL concentrated aqueous NH<sub>3</sub> and stirred at 40° for 6 h 30 min to give 78% 6-(4-methoxyphenyl)-2-methyl-3- ( $\alpha$ -D-galactopyranosyloxy)imidazo[1,2-a]pyrazine (IV). IV showed luminescence in the presence of  $\beta$ -D-galactosidase with correlation factor r = 0.992.

L8 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Enhancement effect of 2,6-O-dimethyl- $\beta$ - cyclodextrin on the chemiluminescent detection of  $\beta$ -D-galactosidase using a Cypridina luciferin analog

Author/Inventor

Mitani, Motohiro; Sakaki, Syujiro; Koinuma, Yasumi; Toya, Yoshiaki; Kosugi, Masanori

Patent Assignee/Corporate Source

Tsukuba Res. Lab., NOF Corp., Tsukuba, 300-26, Japan

Source

Analytical Sciences (1995 ), 11(6), 1013-15 CODEN: ANSCEN; ISSN: 0910-6340

Document Type

Journal

Language

English

Abstract

$\beta$ -Cyclodextrins enhanced the chemiluminescent detection of  $\beta$ -galactosidase using the Cypridina luciferin analog 3-( $\beta$ -D-galactopyranosyloxy)-6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazine ( $\beta$ -Gal-MCLA) in the order 2,6-O-dimethyl- $\beta$ -cyclodextrin > 2,3,6-O-trimethyl- $\beta$ -cyclodextrin >  $\beta$ -cyclodextrin. Detection of mouse IgG by chemiluminescent enzyme immunoassay (CLEIA) using  $\beta$ -Gal-MCLA and  $\beta$ -galactosidase to amplify the signal was also enhanced by inclusion of 2,6-O-trimethyl-  $\beta$ -cyclodextrin.

L8 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Mechanism of photoinactivation and re-activation in the bioluminescence system of the ctenophore Mnemiopsis

Author/Inventor

Anctil, Michel; Shimomura, Osamu

Patent Assignee/Corporate Source

Mar. Biol. Lab., Woods Hole, MA, 02543, USA

Source

Biochemical Journal (1984 ), 221(1), 269-72 CODEN: BIJOAK; ISSN: 0306-3275

Document Type

Journal

Language

English

Abstract

The bioluminescence of M. leidyi takes place when the photoprotein mnemiopsin in the photocytes reacts with Ca<sup>2+</sup>. The luminescence is inhibited in sunlight and this photoinhibition is reversible by keeping the live specimens in the dark. Exts. of mnemiopsin are similarly photoinhibited, but the photoinhibition cannot be reversed in the dark. Photoinhibited mnemiopsin can be reactivated in the dark by incubation with coelenterazine and O<sub>2</sub> only in solns. having a pH very close to 9.0. The reactivation *in vivo* probably takes place in the same manner, using the coelenterazine that is supplied from its abundant storage form. Apparently, photoinactivation of mnemiopsin results in the dissociation of coelenterazine and O<sub>2</sub> from the mol. of photoprotein; the dissociated form of the former mol. is an inactive form of coelenterazine, not free coelenterazine.

L8 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN

Title

Comparison of the amounts of key components in the bioluminescence systems of various coelenterates

Author/Inventor

Shimomura, Osamu; Johnson, Frank H.

Patent Assignee/Corporate Source

Dep. Biol., Princeton Univ., Princeton, NJ, 08540, USA

Source

Comparative Biochemistry and Physiology, Part B: Biochemistry & Molecular Biology (1979 ), 64B(1), 105-7 CODEN: CBPBB8; ISSN: 0305-0491

Document Type

Journal

Language

English

**Abstract**

Luciferase, photoprotein, free and protein-bound coelenterazine (I) and I enol-sulfate were assayed and compared in 5 bioluminescent coelenterates. Hydrozoans *Aequorea aequorea* and *Halistaura cellularia* contained photoprotein plus very small amts. of I enol-sulfate and luciferase activity, but no free I. Anthozoans *Ptilosarcus gurneyi*, *Cavernularia obesa*, and *Renilla muelleri* contained luciferase, I, and I enol-sulfate, but very little or no photoprotein. I existed mainly in a stabilized form bound to a Ca-binding protein. The bioluminescent reactions in the coelenterates were compared.

L8 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN

**Title**

Chemical nature of bioluminescence systems in coelenterates

**Author/Inventor**

Shimomura, Osamu; Johnson, Frank H.

**Patent Assignee/Corporate Source**

Dep. Biol., Princeton Univ., Princeton, NJ, USA

**Source**

Proceedings of the National Academy of Sciences of the United States of America (1975 ), 72(4), 1546-9 CODEN: PNASA6; ISSN: 0027-8424

**Document Type**

Journal

**Language**

English

**Abstract**

Anal. of substances involved in light -emitting reactions among bioluminescent coelenterates revealed a pronounced uniformity in the structural features of initial reactants, i.e., luciferins and photoprotein chromophores, as well as the light - emitter product. This product is structurally identical among the different classes of coelenterates; i.e., Hydrozoa (the jellyfish, *Aequorea*), Anthozoa (the sea cactus, *Cavernularia*; sea pansy, *Renilla*; and sea pen, *Leiostilus*), and very likely also the Scyphozoa (the jellyfish, *Pelagia*). In each of these instances the reaction product, 2-(p-hydroxyphenylacetyl)amino-3-benzyl-5-(p-hydroxyphenyl) pyrazine, is the actual light -emitter, whether it occurs in a Ca<sup>2+</sup>-triggered photoprotein type of luminescence or in a luciferin-luciferase type. The evidence indicates that in certain coelenterates, e.g., *Cavernularia*, these 2 types are equally significant, whereas in others (*Renilla* and *Leiostilus*) the luciferin-luciferase type predominates over the Ca-triggerable photoprotein type. Only the photoprotein type functions in the luciferaseless jellyfish, *Aequorea*. In all instances investigated, the structure of the light - emitter prior to the luminescence reaction appears to be essentially the same as that of the chromophore of unreacted aequorin. The product of the luminescence reaction is absent in exts. of nonluminous species. However, a product very similar to that of luminescent coelenterates occurs also in representatives of other phyla, including the cephalopod molluscs, e.g., the "firefly squid" *Watasenia* and probably various ctenophores as well.

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